Second European International Conference on Industrial Engineering and Operations Management

IESEG Paris La Defense Campus

Paris, France

July 26–27, 2018
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**IEOM Society**

"Achieving and Sustaining Operational Excellence"

[www.ieomsociety.org](http://www.ieomsociety.org)
Welcome to the 2018 IEOM Conference in Paris, France

To All Conference Attendees:

On behalf of the IEOM Society International, we would like to welcome you to Paris, France and to the 2nd European Conference on Industrial Engineering and Operations Management. This unique international conference will provide a forum for academics, researchers and practitioners from many industries to exchange ideas and share recent developments in the fields of industrial engineering and operations management. It will also provide participants an opportunity to collaborate and advance the theory and practice and to network with leading scholars and practitioners in these fields. The conference received around 550 papers/abstracts submitted from 60 countries. After a thorough peer review process, approximately 400 submissions have been accepted. With the accepted submissions, the program includes many cutting-edge topics in industrial engineering and operations management. Full papers will be indexed in Scopus, subject to satisfying IEOM Quality Standards.

The challenge of continuous improvement for quality and service is significant in the 21st century. Therefore, this conference will address many issues concerning continuous improvement. Some of these issues will be addressed by our keynote speakers:

- Dr. Bart L. MacCarthy, Professor of Operations Management, Division Head – Operations Management and Information Systems, Nottingham University Business School, University of Nottingham, United Kingdom (UK)
- Dr. Yugang YU, Executive Dean, School of Management, Univ. of Sci. and Tech. of China, Hefei, Anhui, China
- Pascale Herman, Marketing Director, Valeo Thermal Systems Business Group, Paris, France
- Charles Sagna, Thermal Academy Director, Valeo Thermal Systems Business Group, Paris, France
- Dr. Frédéric MORET, Industrial Director of Faurecia, Paris, France
- Nicolas SILVESTRE, Digital Transformation Director, Faurecia, Paris, France
- Stéphane COUDURIER CURVEUR, Industrial Process Performance Excellence, Injection Senior Manager & Senior Expert, Faurecia - Interiors - Central Manufacturing, Mérue, France

In view of the great success of the Global Engineering Education Series in the previous IEOM conferences, once again we will have a dedicated session on Global Engineering Education in this event. This session will feature distinguished speakers who will discuss the workforce readiness of engineering graduates around the world. Twelve featured speakers from all over the world will address engineering education challenges and opportunities. The Industry Solutions Track will address what the industry needs to survive in the competitive environment nowadays. Distinguished practitioners will share their experiences and journey. They will address industrial challenges and opportunities for continuous improvement and sustainability.

The IEOM Society would like to express our deep appreciation to our sponsors, university partners, organization partners, exhibitors, authors, reviewers, keynote speakers, panelists, advisors, the local committee and the many volunteers who have given so much of their time and talent to make this unique international conference an overwhelming successful event.

We would also like to thank the students who will participate in this event. The Conference Organizing Committee again welcomes you to Paris and wishes you an enjoyable learning experience at the conference. We hope you a safe and memorable adventure in exploring Paris and Europe with its many outstanding attractions and sightseeing opportunities.

Enjoy the conference!

Dr. Linda L. Zhang
Conference Co-Chair
Professor of Operations Management
IESEG School of Management
Paris La Défense, France

Ahad Ali, Ph.D.
Conference Co-Chair
Associate Professor and Director of IE Programs
Lawrence Technological University
Southfield, Michigan, USA
Conference Program

July 26, 2018 (Thursday)

08:00 – 17:00 Registration
08:00 – 09:30 Parallel Sessions
09:30 – 09:40 Welcome Address: Dr. Jean-Philippe Ammeux, Dean of IÉSEG School of Management, Lille, France
09:40 – 10:20 Opening Keynote I: Dr. Bart L. MacCarthy, Professor of Operations Management, Division Head – Operations Management and Information Systems, Nottingham University Business School, University of Nottingham, UK
10:20 – 11:00 Opening Keynote II: Dr. Yugang YU, Executive Dean, School of Management, University of Science and Technology of China (USTC), Hefei, Anhui, China
11:00 – 11:30 Networking Break
11:30 – 13:00 Parallel Sessions
13:00 – 14:30 Lunch Break (Lunch Provided)
14:30 – 16:00 Parallel Sessions
16:00 – 16:30 Networking Break
16:30 – 18:00 Parallel Sessions
18:00 – 19:30 Poster Session

July 27, 2018 (Friday)

08:00 – 17:00 Registration
08:00 – 09:30 Parallel Sessions
09:30 – 10:15 Keynote III: Pascale Herman, Thermal Business Marketing Director, Valeo, Paris, France
Charles Sagna, THS Academy Director, Valeo Thermal Systems Business Group, Paris, France

New Solutions for Car Interior Comfort, a Revolution in Health & Well-being, New Development Methods User Centric

10:15 - 11:00 Keynote IV: Frédéric MORET, Industrial Director of Faurecia, Paris, France
Nicolas SILVESTRE, Digital Transformation Director of Faurecia
Stéphane COUDURIER, Industrial Performance Excellence Manager, Faurecia

Digital Transformation of an Automotive Tier-1 Production System

11:00 – 11:30 Networking Break
11:30 – 13:00 Parallel Sessions
13:00 – 14:30 Lunch Break (Lunch Provided)
14:30 – 16:00 Parallel Sessions
16:00 – 16:30 Break
16:30 – 18:00 Parallel Sessions
19:00 – 22:00 CONFERENCE AWARD DINNER – Renaissance Paris La Defense Hotel
Keynote Speakers

9:30 am (Thursday, July 26) – Welcome Address

Dr. Jean-Philippe Ammeux
Dean
IÉSEG School of Management
Lille, France

Dr Jean-Philippe Ammeux is a graduate from the renowned French University « Paris I Pantheon-Sorbonne » in Paris. He has a PhD in Economics and International Finance and, since 1979, has taught international economics, macroeconomics and political economics in several institutions based in France and internationally.

In 1994, Jean-Philippe Ammeux has been appointed General Director of IÉSEG School of Management, a leading business school founded in 1964 in the city of Lille, in France. Under his direction, the School has achieved the ranking of a top 10 French business school as well as the prestigious accolade of becoming a Grande Ecole, one of the most respected and academically rigorous types of higher education institution in the world. In 2009, the School also opened a second campus at Paris - La Défense, Europe’s biggest business hub. IÉSEG is also part of the elite group of business schools that have received the triple crown of international accreditations: AACSB, EQUIS and AMBA.

For Jean-Philippe Ammeux, the IÉSEG culture is born out of a passion for progress and ability meaning that energy is focused on identifying the true potential of each student. IÉSEG is proud of its approach to business education and its ability to instill the key values of accomplishment, responsibility, integrity, solidarity and engagement (ARISE).

From 2010-2017, Dr Jean-Philippe Ammeux was the President of the FESIC an association that gathers and promotes 25 schools and 57 campus in France and abroad. During this period, one of his main achievements has been to help define the legal framework for the new “EESPIG” label in France (Private higher education institutions with a public interest).

9:40 am (Thursday, July 26) – Opening Keynote I

Bart L. MacCarthy, BA, PhD, FIMA, FIOM, FIET
Professor of Operations Management
Division Head – Operations Management and Information Systems
Nottingham University Business School
University of Nottingham
United Kingdom (UK)

Bart is Professor of Operations Management in the Business School at the University of Nottingham since 2003 and is Head of the Operations Management and Information Systems Division (OMIS). He gained his PhD at the University of Bradford, followed by postdoctoral work in the Mathematics Institute at Oxford University. He teaches at Executive, MBA, and Masters levels in operations, supply chain, and project management. He developed Nottingham’s Executive Masters programme in Global Supply Chain Management with Rolls-Royce. His research spans the analysis, modelling and management of operational systems in a wide range of sectors combining both qualitative and quantitative methodologies. He is particularly interested in research studies that combine the analysis of practice with modelling. He has gained very significant external research funding over his career from the UK research councils, the European Union and industry. He has led major research projects on effective decision support in planning and scheduling, order fulfilment modelling, Mass Customization, and international supply chain management. Recently he was the Principal Investigator at Nottingham on the large EPSRC-funded multi-University grant examining new perspectives on modelling robustness and resilience in international supply networks and is currently a co-investigator on the EPSRC funded project on Cloud Manufacturing, jointly with the Faculty of Engineering. Current research interests include supply chain evolution, the impact of digitisation and distributed cloud technologies on the supply chain, and decision models for multi- and omni-channel retail fulfilment.

Bart has published widely in the Operations, Supply Chain, and Management Science literatures and has delivered a number of keynotes addresses on operations and supply chain topics. He is European Editor for the International Journal of Production Economics and serves on the editorial board of a number of other academic journals including being a consulting Editor for the International Journal of Operations and Production Management. He has researched and consulted with a range of companies in automotive, aerospace, engineering, textiles and clothing, consumer products, food and logistics sectors. He is a Fellow of the Institute of Mathematics and its Applications, the Institution of Engineering and Technology, and the Institute of Operations Management. He was President of the European Chapter of the Decision Sciences Institute (EDSI) from July 2011 until June 2012 and serves on DSI’s Strategic Planning for International Affairs Committee. He is a board member of the International Foundation for Production Research (IFPR).

Presentation Title – Omni-Channel Retailing- Opportunities and Challenges for OM and OR

Today’s retail customers want to be able to access information and make purchase decisions in whatever way and on whatever device they wish. They also want to receive their orders whenever, wherever, and however they wish. Retailers are therefore under pressure to offer multiple retail channels and multiple fulfilment modes in order to satisfy very different customer journeys. This ‘Omni-Channel’ retailing changes the nature and granularity of order fulfilment fundamentally for the retailer from the conventional way of satisfying all customers from a network of bricks-and-mortar stores. Omni-Channel channel retailing is an area that is practice-led. Retailers are experimenting, trialling, and implementing different solutions and systems, not always successfully. We first discuss different types of, and definitions for multi-channel retailing. We then provide a conceptual map for Omni-Channel order fulfilment decisions at strategic, operational, and tactical levels. Opportunities for both empirical OM research and
modelling research are highlighted. We then consider models for one of the most popular modes of Omni-Channel fulfilment – ‘Buy-online-pickup-in-store’ (BOPS).

10:20 am (Thursday, July 26) - Opening Keynote II

Dr. Yugang YU  
Executive Dean  
School of Management  
University of Science and Technology of China (USTC)  
Hefei, Anhui, China

Yugang Yu is Executive Dean and Yangtze Scholar Distinguished Professor of Logistics and Operations Management at the University of Science and Technology of China, PR China (USTC). He obtained his PhD in Management Science and Engineering from the School of Management, USTC in 2003. His current research interests are in warehousing, supply chain management and business analytics, and business optimization. He has published more than 60 papers in academic journals, including Productions and Operations Management, Transportation Science, IEEE Transactions on Automation Science and Engineering, and International Journal of Production Research, European Journal of Operational Research, Annals of Operations Research, IIE Transactions, International Journal of Production Research, European Journal of Operational Research, Annals of Operations Research, IEEE Transactions on Automation Science and Engineering, and International Journal of Production Economics. His papers have been cited more than 1500 times, and Elsevier ranked him as one of “the most cited researchers in the Mainland of China” in 2014, 2015, 2016 and 2017, respectively. His research results have also been patented several times in China. He received a career development VENI project from the Netherlands Organization for Scientific Research (NWO), a distinguished research scholar grant from the National Science Foundation of China (NSFC), Yangtze Scholar Distinguished Professorship from China Ministry of Education, and the first prize of natural science from China Ministry of Education.

Presentation Title – Business Analytics in China

Nowadays, many Chinese companies have already accumulated abundant data resources and are seeking ways to improve their management by taking advantage of their data. In this talk, we present several instances of business analytics based on our research projects with Chinese companies. In each instance, we show the process of solving data driven problems in Chinese logistics and supply chain management, which basically includes three stages – causality analysis, prediction analysis, and optimization analysis. In particular, we find that classical methodology (like, regressions) works well in causality analysis, however, has limitation in prediction analysis; some advanced methodology (like, machine learning) exhibits good performance in prediction analysis, however, generates new challenges in the optimization analysis. Our research contributes to proposing several ideas and methodologies to analyze data, formulate data driven problems, and optimize data driven problems. At the end of this talk, we would like to introduce some innovative practices of Chinese companies and conclude several potential research directions of business analytics in China.

July 27, 2018 (Friday)

9:30 am (Friday, July 27) – Keynote III

Pascale Herman  
Marketing Director  
Valeo Thermal Systems Business Group  
Paris, France

Pascale Herman started at Valeo 25 years ago as young engineer. Since then she gravitated all levels to reach her current Executive Marketing Director at Valeo within the Thermal Systems Business Group. She has an in depth understanding of the industry constructed over years of experience in laboratories, project, product line, marketing, and business unit management. Within this career path, she could consolidate her experience in Strategy, Marketing, Innovation and Business development in the fields of automotive, thermal systems, batteries and electric vehicles, user experience. With passion, leadership and out of the box thinking, she is managing teams on a global basis to grow and succeed in the preparation of the future.

Charles Sagna  
Thermal Academy Director  
Valeo Thermal Systems Business Group  
Paris, France

Charles Sagna started at Valeo 25 years ago at Valeo Service as Marketing Manager, after post-graduation at Paris 3 University in international business negotiation. He stayed 17 years in the dedicated organization to the Aftermarket, where he could consolidate his experience in executive positions such as Marketing Director and Sales Director. In 2011, he joined the industrial part of Valeo, at Valeo Thermal Systems as Product Marketing Director for the Powertrain Thermal Product Group. In this position, the main task was to understand the market, define strategies in order to drive R&D product developments to the most lucrative market opportunities. Part of the job was also to promote innovations and technologies at OEMs, as well as within organizations such as the PACE Awards of Automotive News International. Since 2011 Valeo Thermal Systems has received 3 PACE Awards on Air Intake Module, Water Condenser and this year R-744 AC Loop where he met Donald
Reimer. Since September 2017, Charles Sagna is Director of the Thermal Academy in charge of managing, organizing and capitalizing knowledge within the Thermal Business Group.

Presentation Title – **New Solutions for Car Interior Comfort, a Revolution in Health & Well-being, New Development Methods User Centric**

As an innovative company Valeo is right in the middle of three technological and social revolutions that are shaping our industry electrification, autonomous vehicles, and digital mobility. As far as thermal systems are concerned, these revolutions lead us to think differently the interior of the car from a comfort and health stand point. Moreover, this triggers a different approach of our development methods setting users’ experience at the heart of our methodologies.

**10:15 am (Friday July 27) - Keynote IV**

**Dr. Frédéric MORET**  
Industrial Director of Faurecia  
Paris, France


After having managed industrial research, engineering and production teams and departments in aerospace and energy industries up to 2000, Frédéric led the industrial recovery and international development of Lighting division of Valeo, 16 B€ sales global automotive tier-1. Since 2011, he is leading the worldwide industrial and digital transformation of the Interior Business Group of Faurecia, 18 B€ sales global automotive tier-1. Faurecia Interior employs 25,000 p worldwide in 85 factories. As world leader, Faurecia Interior develop the full range of technologies from plastic injection to advanced HMI solutions for car cockpits.

**Nicolas SILVESTRE**  
Digital Transformation Director  
Faurecia  
Paris, France

**Stéphane COUDURIER CURVEUR**  
Industrial Process Performance Excellence  
Injection Senior Manager & Senior Expert  
Faurecia - Interiors - Central Manufacturing  
Méru, France

After graduating as a Polymer Processing Engineer, Stéphane COUDURIER CURVEUR has equally split his 25 years career between Manufacturing & Engineering, in Operational or Central Functions. First in a UK based plant, Managing Process development & Production, as a Toyota supplier, where he developed his hands on & lean approach of Technology Efficiency. Then as the Manager of Faurecia Worldwide team of Injection Process/Tool Engineers & Experts, based in China, to establish from this important country supplier of tools, the Excellence level expected by Faurecia. After a brief return back to the floor to recover efficiency of Faurecia Mexican Injection Operation, he is now in charge of leading the full Injection Operation of Faurecia to Excellence & beyond. 800 machines in 51 plants Worldwide, developing a collaborative network between entities to boost knowledge & efficiency, engaged in digital transformation & using successfully Big Data to improve performance & go beyond Excellence.

**Presentation Title – Digital Transformation of an Automotive Tier-1 Production System**
DISTINGUISHED SPEAKERS – Global Engineering Education

Thursday (July 26, 2018)

Session I: Global Engineering Education
8:00 – 9:30 am (Thursday) - Room B15
Session Chair: Dr. Christoph Wunck, Jade University, Wilhelmshaven, Germany

8:00 – 8:30 (Thursday)

Dr. Christoph Wunck
Professor, Business Information Systems, Industrial Engineering
Jade University, Wilhelmshaven, Germany
OFFIS Institute for Information Technology, Oldenburg, Germany
Department of Computer Science, Iowa State University, Ames, USA

IT Skills Development for Graduate Students in Industrial Engineering

Prof. Dr. Christoph Wunck holds a full professorship for Business Information Systems at Jade University since 1999. He teaches courses on Distributed Applications, Software Engineering, Programming, Electronic Business Systems and Process Management. He holds a doctoral degree from the faculty of Mechanical Engineering and a Master’s degree (Diplom-Ingenieur) in Electrical Engineering, both from RWTH Aachen University. Dr. Wunck is a scientific director at OFFIS Institute for Information Technology in Oldenburg, Germany. He has been appointed Affiliate Professor of Computer Science at Iowa State University in Ames, Iowa, USA. His professional experience covers project management and consulting services for a major European business consultancy and work as a consulting engineer for manufacturing and electronics industries. He has served Jade University for nine years in the position of Dean and Dean of Studies.

His research interest include:
- Application of IT and Business Information Systems in Industrial Engineering
- Distributed Manufacturing Execution Systems, Multi-Agent Systems, Data Science, Manufacturing Intelligence
- IT Governance and Security in Operations and Supply Chain Management

Prof. Dr. Wunck is well connected in his field. He serves in the management of conferences and is a reviewer for conference papers and books. He is a member of IEEE Industrial Electronics Society, IEOM, IISE, INFORMS, ISCA, ISACA and VDI.

8:30 – 9:00 (Thursday)

Dr. Özlem Şenvar
Associate Professor, Department of Industrial Engineering
Faculty of Engineering
Marmara University
Istanbul, Turkey

Sustainability assessments in energy management AND/OR Life cycle assessment and life cycle impact assessments

Dr. Özlem Şenvar is an Associate Professor in Department of Industrial Engineering at Marmara University. She was officially granted (Ref. 2013/327-350) by European Commission and worked as post doctorant in Laboratoire d’Optimisation des Systemes Industriels (LOS), Institut Charles Delaunay (ICD), Université de Technologie de Troyes in France. She holds PhD degree in Industrial Engineering, M.Sc. degree in Quality Engineering and BSc degree in Statistics and Computer Sciences. She has been author of international peer reviewed journal articles, book chapters, and conference papers

9:00 – 9:30 (Tuesday)

Mohammad Abdullah Shaikh
Deakin University
Victoria, Australia

Mohammad Abdullah Shaikh is a PhD candidate in Faculty of Science, Engineering and Built Environment at Deakin University Melbourne. His area of research is modelling and integration of sustainable systems under human change. He has done his Masters Degree from Istanbul Sehir University (City University of Istanbul) in Industrial and Systems Engineering. As part of his master’s thesis, he developed a framework to calculate Energy-Water nexus of Electricity generation in Turkey and used statistical model to predict the water usage due to energy consumption till 2030. He has also worked on Supply Chain Operations Reference (SCOR) Model during his undergrad degree. He hold a bachelor’s degree in Industrial and Manufacturing Engineering. Mr. Shaikh has an industrial exposure of working in Automotive sector in Pakistan for two years. He has been involved in various optimization and line balancing projects. His interests manoeuvre over topics related to Sustainability, Optimization, Scenario Analysis, Integrated Modelling, Supply Chain Management, and Optimization.
Prof Khumbulani Mpofu
Gibela Research Chair in Manufacturing and Skills Development
Professor – Industrial Engineering Department
Tshwane University of Technology (TUT)
Pretoria, South Africa

Prof Khumbulani Mpofu is Gibela chair in manufacturing and skills development. He is an NRF rated researcher with unbridled passion for Industrial Engineering. Prof Mpofu’s research career began in 2004 at the completion of a five year qualification with a design project that he carried out for his Bachelor of Engineering Honours degree in Industrial and Manufacturing Engineering. This project had both design elements and also an exploratory research aspects. In 2005, he received an offer to be a lecturer in a Bachelor of Technology programme, where he was responsible for computer related courses. He then enrolled for a postgraduate course which had a 50% research component.

During his Master’s studies he gained keen interest on the computer aspects of the manufacturing industry. He was also involved in a Cleaner Production project at the manufacturing site of an airport component production and maintenance unit. He also pursued a research project in 2006, focusing on small to medium enterprise wood manufacturing companies and how they can reduce their environmental impact by collating their efforts with a clustering approach. Prof Mpofu enrolled for a Doctor of Technology in Mechanical Engineering at TUT in 2007, where he designed a Knowledge Based System for Reconfigurable Manufacturing. Between 2004 and 2011, Prof Mpofu was exposed to a range of other manufacturing challenges in; for example, manufacturing maintenance, importance of environmental conscious manufacturing, the advanced manufacturing technologies, from the mechanical, and control design to information system application in manufacturing.


He has also reviewed numerous journals such as the Taylor and Francis Journal of Production Research, Elsevier Journal of Manufacturing Systems, the Emerald Design and Technology Journal, Engineering Optimization and the Proceedings of the Zimbabwe Institute of Engineers Journal. Currently, the Head of Department for the Industrial Engineering department, Prof Mpofu represented his faculty at the Research and Ethics Committee for a three year term and he spearheads the Innovative Design and Manufacturing research unit under the New Materials and Advanced Manufacturing niche area.

In addition to his many accolades, Prof Mpofu has received excellence awards at the institutional level as well as at the national level being one of the finalists in the DST awards for emerging researcher 2015. To date (2016), he has attracted in excess of R30 million corporately and individually for research activities. He has collaborators locally and internationally in France, Germany, Slovenia, Sweden, Slovenia, China and the United States of America. Until 2016, he had over 70 publications in conferences, journals and book chapters. Graduated two doctoral students and twelve masters students. Through his efforts and his team he, has registered 3 patents to date, which are at various stages for development for commercialisation.

Prof Mpofu’s field of expertise and research specialisation is Industrial Engineering with the focus on:
- Advanced manufacturing technologies
- Knowledge based systems
- Robotics applications in Manufacturing
Skills development is a challenge in the South African landscape, further skills in science, technology, engineering and mathematics is a global problem. This chair will seek to be a catalyst in revitalising the rail commuter coach manufacturing focusing on engineering and the related sectors to propel rail as a preferred commuter transport mode. Technical skills, running of technical business and development of localised technologies will bring about a revamp of the contribution of manufacturing sector to the GDP and also result in sustainable employment and black owned Small, Micro & Medium Enterprise development.

12:30 – 1:00 (Thursday)

**Dra. Ma. Ángeles Gómez Gavito**  
Directera Lean Advancience Initiative - México y Centro Lean Enterprise  
Senior Lean Six Sigma Consultant & Black Belt  
Dirección General de Internacionalización  
Universidad Popular Autónoma del Estado de Puebla AC.  
Piso, Barrio de Santiago, Puebla, Pue.  
Mexico  

Dra. Gavito has 29 years of professional experience and 26 years of academic experience. She has been consultant in Lean Six Sigma projects in worldwide industries like Volkswagen Mexico, Benteler Automotive, Rassini Breaks, Mead Johnson Nutrition, Gestamp Automotive, Volkswagen Bank, Bayer Pharmaceutical, Audi Mexico, Kayser Automotive, PWO Automotive, Schlemmer Automotive, Truck & Wheel, Clerprem Mexico, Flex&Gate, among others. Her interests are consolidate a cluster of organizations grouped by industry sectors that actively participates in a learning and collaborative network around the Lean Enterprise Philosophy, achieve considerable gains in their quality, costs and delivery indicators, creating value for all stakeholders. Foster competitiveness in manufacturing, service and government organizations, through the adoption and development of Lean Enterprise management tools and methodologies in their enterprise processes, thus increasing flexibility towards changes in the environment, improving their ability of innovation and continuous improvement, and creating a new business culture focused on value creation and a permanent pursuit of excellence. Dra. Gavito has been speaker in several congresses in Mexico, USA, Spain, Singapore, and Argentina. She has completed Doctor in Business Administration from Swiss Management Center University, Zug, Suiza and Master in Theory of Design, Universidad de las Américas Puebla, Mexico.

**Session III: Global Engineering Education**  
**2:30 – 4:00 pm (Thursday) - Room B15**  
Session Chair: Dr. Fabio Fruggiero, University of Basilicata – Italy

2:30 – 3:00 (Thursday)

**Dr. Fabio Fruggiero**  
Assistant Professor in Industrial Systems Engineering  
School of Engineering  
University of Basilicata – Italy

**Human Factor, Safety and Sustainability in the Industry 4.0 Era**

FABIO FRUGGIERO graduated in Mechanical Engineering at the University of Salerno with a dissertation about newly formed meta-heuristics for the industrial scheduling optimisation, 2004. His dissertation was for published work in the field of industrial optimization at the ICPR18 conference. He conducted his PhD in Mechanical Engineering at the University of Salerno - Italy with a dissertation about Digital Factory Application from Manufacturing to Service Environment, 2008. Formerly, in 2008, He was post PhD student at the Mechanical Engineering Department of the University of Salerno with main topic of research: Operations Management Strategies for HealthCare optimisation.

Currently, he is Assistant Professor, and responsible of the area and lab, in Industrial Systems Engineering at the School of Engineering – Mechanical Engineering Area - of the University of Basilicata- Italy. He runs courses for both Industrial System Engineering and Operations Management. He works as referee for different International Journals (e.g., USOI, UAMT, UPR, CPPB, EIS, TPMR, TSMSI, UEBM, UHSE, Cogent OA etc …) and the national minister of research. Track Chair for Human Factor and Ergonomics in IEOM - Industrial Engineering and Operations Management Society - conferences. He is editor Of Cogent Engineering Journal and Industrial and Systems Engineering. Fabio has been engaged in the auto sector for both Human Factor analysis and Ergonomic research, scheduling optimization, production management. He has collaboration with firms of the production and service sector applying the results of his work to help multinational companies and SMEs to generate safety and Optimize services and profits.

He is acting as consultant to several major companies and patent initiatives (FCA, CRF, PintoTecnoc Srl, Metecno, Gallotta prodizioni, M.I.p. Srl). He is active in initiative for knowledge transfer to industry. He has been conducting research with Ryerson University - Canada; Cardiff School of Engineering - UK; Manchester University – UK; Cork Institute of Technology – IR; Universidad Politècnica de Madrid- Spain (performing lectures and research initiatives); University Of Technology of Troyes - France. His research's activity encompassed the area of: Human Factor and Corporate Strategy; Industrial System Design Processes; Additive Manufacturing and Advanced Manufacturing; Simulation and Virtual modelling; Agent Based Modelling; Assembly Line Balancing; HealthCare Management and Clinical Risk Assessment; Scheduling and Optimisation; Safety and Risk analysis.

Dr. Ilham Kissani
Assistant Professor of Engineering & Management Science
School of Science & Engineering
Al Akhawayn University
Ifrane, Morocco

Dr. Ilham Kissani is an assistant professor in the field of engineering management for the School of Science and Engineering at Al Akhawayn University in Ifrane, Morocco. She has served as the main advisor and lead instructor for the undergraduate and MS programs in Engineering and Management Systems since 2010. She has helped create very close ties with the AUI School of Business Administration, which allows both schools to leverage our resources and deliver a greater diversity of courses to students, such as supply chain management and operations management. Her background is diverse and includes industrial experience as well as academic. Her degrees are from INSEA, Morocco (Engineer) and Université Laval, Canada (Master and Ph.D). She has worked with Royal Dutch Shell as a project manager and with Modellium Québec, where she consulted in logistics and supply chain issues. Additionally, Dr. Kissani contributes in research in supply chain management, planning, and operations research. She is a member of ASEM, IEEE, IEOM, IIE, INFORMS.

3:30 – 4:00 (Thursday)

Dr. Funlade Sunmola, BEng (Hons), MSc, MA, PhD
Senior Lecturer in Manufacturing and Enterprise Engineering
Manufacturing, Material and Biomedical Group
School of Engineering and Technology
University of Hertfordshire
United Kingdom

Funlade is a Senior Lecturer in Manufacturing and Enterprise Engineering, a member of the Manufacturing, Material and Biomedical group of the School of Engineering and Technology, University of Hertfordshire. He earned his first degree BEng (Hons) in Civil Engineering at the Ahmadu Bello University Zaria. He obtained Masters Degrees (MSc) in Industrial Engineering from the University of Ibadan and MA in Accounting and Finance from Birmingham City University. He studied Manufacturing Engineering (MPhil) at the University of Birmingham and earned his PhD in Computer Science (Artificial Intelligence and Robotics) also from the University of Birmingham.

Funlade has several years of professional industrial and academic experience in higher education teaching and learning, consultancy and management having worked in a variety of sectors including construction, manufacturing, software development houses, and the National Health Service (NHS) UK. His current research interests lie in manufacturing, engineering informatics, enterprise systems, processes and operations. He has been involved with various research projects in a diverse range of contexts, e.g. electronic monitoring systems, products, manufacturing and operations intelligence, benchmarking of manufacturing and service operations; business process improvements and service transformations; SC21 – Supply chains of the twenty-first century; sequential decision making and optimised learning, and various performance modelling studies. He is especially interested in advances related to industry 4.0, the applications of advanced computing, information and communication technologies. He has published academic papers, and acted as referee, in the subject area. Funlade is a Prince2 Registered Practitioner - certified project manager.

Session VI: Global Engineering Education
4:30 – 6:00 pm (Thursday) - Room B15
Session Chair: Dr. Balan Sundarakani, University of Wollongong, Dubai, UAE

4:30 – 5:00 (Thursday)

Carmen Pasca
Liberal Arts Department
College of Engineering and Technology
American University of the Middle East - AUM
Egaila, Kuwait

Carmen Pasca holds a PhD in Sociology from University Victor Segalen Bordeaux 2- France and has degrees in philosophy, history and sociology (Research-Master from EHESS- Paris). Her research interests and activities focused on Social Choice, Risk, and Decision making Theories and the Acceptability of Fairness and Responsibility axioms. Recently she has conducted experiments to elicit social preferences over income compensation schemes.  

With John D Hey and John Bone of York University they have been awarded a grant from the University of York to carry out a series of experiments into the impact of responsibility, effort and luck on distributional judgments. We (John Bone, John D. Hey and myself) are just about to embark on a new set of experiments adding a third dimension into the impact of responsibility, effort and luck on social judgements. Her papers include: (1) “Inferring Social Preferences Over Income Distributions through Axioms”; (2) “On choosing a Constitution (at least the part relating to the distribution of income)”; (3) “Are Revealed Intentions Possible?”. She is currently working on a new experiment designed to discover, inter alia, people’s trade-offs between mean income and income inequality.
Dr. Balan Sundarakani is an Associate Professor and Discipline Leader for the Master of Science in Logistics program in the Faculty of Business at the University of Wollongong in Dubai (UOWD). Previously he was working as an Assistant Professor at UOWD. He has 12 years of teaching and research experience in the area of Supply Chain Management across the various universities including the National Institute of Technology (NIT), Tiruchirappalli, India and the National University of Singapore (NUS), Singapore and the Chair of Logistics Management in Swiss Federal Institute of Technology (ETH), Zurich, Switzerland.

He earned a B.Engg (Distinction) in Mechanical Engineering from M.S University and an M.Engg (High Distinction) in Industrial Engineering from the National Institute of Technology-Tiruchirappalli, a PhD in Supply Chain Management from the Indian Institute of Technology-Roorkee, India and a Post-Doctoral Research Fellowship from the Logistics Institute Asia Pacific, NUS Singapore. He has completed research and consultancy projects for the UOW Dubai, EDB Singapore, IBM, DHL, Ministry of Defence Singapore, Dubai Trade, JAFZA, and RTA Dubai. The cumulative value of his research and consulting projects in Singapore was around $2 Million. Since joining UOWD, he has received five university funded research grants totaling AED 60,000.

Dr Sundarakani has published 92 research papers in the form of Refereed Journals: 28, Refereed Conferences: 37, Book Chapters: 12, Book: 1, Periodicals: 7, Industry Reports: 4, Case Study: 1 and Book Review: 2. His research outcomes have appeared in international Journals such as International Journal of Production Economics, International Journal of Technology Management, Computers In Industry, Journal of Advances in Management Research, International Journal of Logistics Systems Management, etc. and which are received many citations worldwide. He serves as a supervisor for a number of PhD/DBA candidates, examined six PhD theses and currently serving as a member of the PhD examination panels of three different Universities.

He has won “Research Excellence Award” on two occasions for his research performance at UOWD in 2010 & 2012, received the ‘Highly commended’ Teaching Excellence Award from UOWD in 2015, the ‘Best paper Award’ from IEOM, Bali, Indonesia in 2014, the RTA Appreciation (2012) from the Government of Dubai for sustainable transport strategies, Best Educator Award (2010) from ITP Middle East, ‘Gold medal for Best
Dr. Sundarakani has previously served with the editorial board of Journal of Advances in Management Research, Emerald and also with the International Journal of Agile Systems and Management, Inderscience. He also serves as a regular reviewer for the EJOR, IJPR, IJPE, JAMR and SCM Journals. He is a member of the AIB (USA), ORSI (India), POMS (USA), EuROMA (UK) and INFORMS (USA). Currently he is on the “Supply Chain Asia’s” Executive Committee member in Singapore and the Executive Board member for SCLG Middle East in Dubai.

Dr Sundarakani is teaching students on both undergraduate and postgraduate level. He has been very successful in teaching the quantitative and modelling subjects with deep critical analysis and high level of academic engagement using relevant logistics industry cases and live demonstrations. The student’s evaluation of his teaching has been consistently very high and many students have admired his style of teaching in their feedback form. He was awarded ‘Highly commended’ Teaching Excellence Award from UOWD in 2015, nominee of (UOW Australia) Vice-Chancellors Award for Continuous Contribution to Teaching and Learning in 2016.

5:30 – 6:00 (Thursday)

Edly F. Ramly
Certification Director
EFR Certification
Johor, Malaysia

Edly F. Ramly is a Certification Director for EFR Certification. He is renowned coach, auditor, consultant and trainer. With his excellent technical expert and interpersonal skills, he has conducted various high impact trainings and workshop in the area of operation management, industrial engineering, management system including quality, environment and occupational health and safety, workplace improvement, variation and waste reduction, and practical problem solving techniques including statistical tools. Apart from being trained as Lead Auditor in various management system, he is also qualified auditor for Automotive Industry ISO/TS 16949. During his service with Pera Neville Clarke, he is also tutor for QMS lead auditor course. His industrial experience was in the automotive industry. During his stayed with the TRW Automotive, he was tasked with the responsibility of promoting and implementing Lean and Six-Sigma within the Organization. Due to his extensive exposure in Lean and Six-Sigma Management System, he was invited by Malaysia Productivity Corporation (MPC) and Asia Productivity Organization (APO) to conduct public training in the area of Six-Sigma implementation and Lean Implementation. In 2014, he been awarded as one of Malaysia Productivity Specialist by Malaysia Ministry of International Trade and Industry.
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Dr. Hamid Parsaei, Professor of Industrial and Systems Engineering, Texas A&M University (College Station) and Director of Academic Outreach - Texas A&M University, Qatar

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Dr. Abbas Mahmoudabadi, Mehrastan University, Gilan, Iran

Senior Design Capstone Project / FYP Poster Competition Chair
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Simulation and PLM Competition Chair
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Mario Fargnoli, The Sapienza University of Rome, France
Funlade Sunmola, University of Hertfordshire, Hatfield, Hertfordshire, United Kingdom
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Shekar Babu, AMRITA School of Business, AMRITA University, Bangalore, India
MELLAK Abderrahmane, Boumerdes University - Algeria
Submissions Received from Countries and Territories

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<td>Sweden</td>
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- Abdul Talib Bon, Universiti Tun Hussein Onn Malaysia
- Abdur Rahim, University of New Brunswick at Fredericton, Canada
- Abu Masud, Wichita State University, USA
- Bernardo Villarreal, Universidad de Monterrey, Mexico
- Charles Mbohwa, University of Johannesburg, South Africa
- Eui Park, North Carolina A&T State University, USA
- Hamid Parsaei, Texas A&M University (College Station) and Texas A&M University Qatar
- Ilham Kissing, Al Akmahwayn University, Morocco
- Umar Al-Turki, King Fahd University of Petroleum and Minerals, Saudi Arabia
- Hulas King, SIEMENS PLM, St. Louis Missouri, USA
- Masaru Tezuka, Hitachi Solutions East Japan, Ltd., Japan
- Professor Reimer, Lawrence Technological University, Michigan, USA
## PARALLEL SESSIONS

### Thursday, July 26, 2018

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<th>Room R03</th>
<th>Room R11</th>
<th>Room R25</th>
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<tr>
<td>8:00</td>
<td>Global Engineering Education I</td>
<td>Undergraduate Student Paper</td>
<td>Big Data and Data Analytics</td>
<td>Supply Chain Management</td>
<td>Quality Control and Management</td>
<td>Operations Management &amp; Operations Research</td>
<td>Project Management</td>
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<td>9:00</td>
<td>Welcome Address: Dr. Jean-Philippe Ammeux, Dean of IESEG School of Management, Lille, France – Room R11</td>
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<td>9:40</td>
<td>Opening Keynote I: Dr. Bart L. MacCarthy, Professor of Operations Management, Division Head – Operations Management and Information Systems, Nottingham Univ. Business School, University of Nottingham, UK – Room R11</td>
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<td>10:20</td>
<td>Opening Keynote II: Dr. Yugang Yu, Executive Dean, School of Management, University of Science and Technology of China (USTC), Hefei, Anhui, China – Room R11</td>
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<td>11:00</td>
<td>Networking Break</td>
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<td>11:30</td>
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<td>1:00</td>
<td>Global Engineering Education II</td>
<td>Undergraduate Student Paper</td>
<td>Big Data and Data Analytics</td>
<td>Supply Chain Management</td>
<td>Quality Control and Management</td>
<td>Operations Management &amp; Operations Research</td>
<td>Facilities Planning and Management</td>
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<td>2:30</td>
<td>Competitions</td>
<td>Reverse Logistics and Green Systems</td>
<td>Supply Chain Management</td>
<td>Reliability and Maintenance</td>
<td>Production Planning and Control</td>
<td>Human Factors and Ergonomics</td>
<td>Construction Management</td>
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<td>4:00</td>
<td>Networking Break</td>
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<td>6:00 – 7:30: Poster Session</td>
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### Friday, July 27, 2018

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<tr>
<td>10:15</td>
<td>Keynote IV: Frédéric MORET, Industrial Director of Faurecia, Paris, France Nicolas SILVESTRE, Digital Transformation Director of Faurecia Stéphane COUDURIER, Industrial Performance Excellence Manager, Faurecia Digital Transformation of an Automotive Tier-1 Production System – Room R11</td>
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<td>11:00</td>
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<td>1:00</td>
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<td>7:00 pm – 10:00 pm: Conference Awards and Recognition Dinner – Renaissance Paris La Defense Hotel</td>
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Session: 8:00 – 9:30 am

**08:00 – 09:30, THURSDAY**

**Global Engineering Education I**

Session Chair: Dr. Christoph Wunck, Jade University, Wilhelmshaven, Germany

8:00 – 8:30 (THURSDAY)

Mohammad Abdullah Shaikh
Deakin University
Victoria, Australia

8:30 – 9:00 (Thursday)

Dr. Özlem Şenvar
Associate Professor
Department of Industrial Engineering
Faculty of Engineering
Marmara University
Istanbul, Turkey

*Sustainability Assessments in Energy Management AND/OR Life Cycle Assessment and Life Cycle Impact Assessments*

9:00 – 9:30 (THURSDAY)

Dr. Christoph Wunck
Professor, Business Information Systems, Industrial Engineering
Jade University, Wilhelmshaven, Germany

OFFIS Institute for Information Technology, Oldenburg, Germany

Department of Computer Science, Iowa State University, Ames, USA

**8:00 – 9:30, THURSDAY**

**Undergraduate Student Paper Competition**

Session Chair: Dr. Abbas Mahmoudabadi, MehrAstan University, Guilan, Iran

ID 189  Peformance Analysis of Dry Steam Geothermal Power Plant by Modeling and Optimization of Noncondensable Gas Removal System
Fano Alfian Ardyansyah, Universitas Gadjah Mada, Indonesia

ID 471  Line Balancing in Assembly Line - A Case Study
Michelle Eugenia Sánchez Barrientos, Valeria Argumedo Hinojosa, Fabiola Mercedes Arango García, Teresa Verduzco-Garza, Fernando González-Aleu and Jesús Vázquez, Universidad de Monterrey, México

ID 276  WEEE Management: Approach of Reverse Logistics in Higher Education Institutions
Luis Augusto Valencia Rivera and Claudia Cecilia Peña Montoya, Universidad Santiago de Cali, Colombia

ID 293  Applying Demand Aggregation to Improve Forecasting Accuracy
Estefanía Quintanilla, Mariana Herrera and Delia Villarreal & Bernardo Villarreal, Universidad de Monterrey, México

ID 158  Autonomous Container Crane to Simplify Crane Operational Based on Image Processing and Distance Calculation
Wikandhana Rajasa, Septia Sari, Rasyid Fajar and Muhammad Habibie, Institut Teknologi Sepuluh Nopember, Indonesia

**8:00 – 9:30, THURSDAY**

**Big Data and Data Analytics**

Session Chair: RRK Sharma, Indian Institute of Technology Kanpur, India

ID 323  A New Approach for Optimal Obsolescence Forecasting Based on the Random Forest (RF) Technique and Meta-Heuristic Particle Swarm Optimization (PSO)
Yosra Grichi, Thien-My Dao and Yvan Beauregard, École de Technologie Supérieure, Canada

ID 367  A Novel Evolutionary Model for Improving Big Data Security
Ibtissame Kandrouch, Nabil Hmina and Habiba Chaoui, National School of Applied Sciences Kenitra, Morocco

ID 420  What is “Big Data”: Finding from a Systematic Review, Hace Theorem and a Case Study
Abdelaziz Berradou, Mohamed V University, Rabat, Morocco
Tanik Saikouk, International University of Rabat, Rabat, Morocco
Mohamed Hicham Salah Eddine, Morocco
ID 511  Classification of Epilepsy Groups using EEG Signals and Patient Properties  
Erçin Özcan and Elifcan Göçmen, Çukurova University, Turkey

ID 439  Managing Local Communities in Large Projects, Appraisal of Two complex Projects in Iran  
Roya Derakhshan Alavijeh, Universidad Politecnica da Madrid, Madrid, Spain

ID 038  Relating Strategy of Core Company to Type of Analytics Used  
RRK Sharma, Indian Institute of Technology Kanpur, India

8:00 – 9:30, THURSDAY  
Supply Chain Management  
Room B19

ID 183  Suppliers as an Important Factor in the Management of the Sustainable Supply Chain in the Food Industry  
Edgar Guillermo Rodriguez Guevara, Universidad del Valle, Colombia

Abdelwahed Echchabti, Abdelkabir Charkaoui and Mohamed Dif El Idrissi, University Hassan First, Morocco

ID 318  A Sustainability Assessment of Biofuel Supply Chain  
Yohanes Kristianto, Aalborg University Copenhagen, Denmark

ID 421  A Simulation Study of Sustainable Agri-Food Supply Chain  
Hagar H. Amer, Noha M. Galal and Khaled S. El-Kilany, Arab Academy for Science, Technology, and Maritime Transport, Alexandria, Egypt

ID 445  Barriers to Sustainable Construction Practices in the Zambian Construction Industry  
Douglas Aghimien, Clinton Aigbavboa, Ayodeji Oke, and Chanda Musenga, University of Johannesburg, South Africa

ID 289  Resource Allocation: A Moderator of the Relationship of Recycling Strategy and Organizational Performance  
Ahmed M. Attia, Effat University, Saudi Arabia

8:00 – 9:30, THURSDAY  
Quality Control and Management  
Room B20

ID 012  Implementation of Six Sigma in the Construction Projects. A Case Study of the Amman Building Construction  
Maha Alkasisbeh, Rabia Almamlook and Muteb Alshammari, Civil and Construction Engineering Department; Western Michigan University, USA

ID 114  Analysis of Total Quality Management (TQM) implementation in Small Medium Industries  
Thomas Windharyanto Nugroho and Rahmat Nurcahyo, University of Indonesia, Indonesia

ID 391  Study of the Cause-and-Effect Relationship between the Six Axes of the New Balanced Scorecard Model: Application of the DEMATEL Method for the Case of a Moroccan Medical Analysis Laboratory  
Faiza Azour, Haj El Moussami and Latifa Ezzine, Moulay Ismail University, Toulal, Meknes, Morocco

ID 441  Designing of New Attribute Control Chart with Multiple Dependent State Sampling using a Cost Model Based on Loss Functions  
Mouna Benfssahi and Zoubir El Felsoufi, Abdelmalek Essaadi University, Morocco

ID 466  Quality Control Circle and Performance on Construction Industry  
Ofila Irhamna and Rahmat Nurcahyo, Universitas Indonesia, Indonesia

ID 397  Developing a Conceptual Framework to Improve Healthcare Quality Management in Oman  
Yousuf Nasser Al Khamisi, University of Bradford, Bradford, UK

8:00 – 9:30, THURSDAY  
Operations Management and Operations Research  
Room R03

ID 048  Optimal Investment Decisions for Recovery from Disruptions in the Decentralized Supply Chains  
Nader Azad, Saint Mary’s University, Canada

ID 185  Modeling Financial Criteria for Decisions of Delocalization: Case Study and Managerial Insights  
Mouna Benfssahi and Zoubir El Felsoufi, Abdelmalek Essaadi University, Morocco

ID 190  A Linear Programming Approach for Land Allocation of the Commercial Crops in a Plantation  
Raveena S and Sunith Hebbar, Manipal Institute of Technology, MAHE, India
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<td>Investigating the Efficiency and Effectiveness of Project Execution</td>
<td>Palesa Tsotetsi and Chipo Mugova, Mancosa Graduate School of Business, South Africa</td>
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<td>in a South African Project Based Organisation</td>
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<td>Management in a South African Context</td>
<td>Johannesburg, South Africa</td>
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<td>Multi-objective Optimization of Biomass Supply Chain Networks</td>
<td>Farah A. Al-Noweam, Ingy A. El-Kholy and Khaled S. El-Kilany, Arab Academy for Science,</td>
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<td>Technology, and Maritime Transport, Alexandria, Egypt</td>
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<td>026</td>
<td>Towards Increasing the Use of Pre Fabrication Components In</td>
<td>Wan Nadzri Osman, Mohd Nasrun Mohd Nawi, Mohd Wira Mohd Shafiei and Radzi Ismail,</td>
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<td>Malaysia Construction Industry</td>
<td>Universiti Sains Malaysia</td>
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<td>Design and Build Risk Analysis to the Project Success</td>
<td>Hafnidar A. Rani, Muhammadiyyah Aceh University, Indonesia</td>
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<td>Workers Productivity in Construction Sites: A Critical Review</td>
<td>Ghazi Moh'd Al-Abjadi and George Agyekum-Mensah, Coventry University, UK</td>
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<td>Real Options for Dealing with Uncertainty in Project Management:</td>
<td>Jihane Gharib, Loubna Benabbou, Mohammed V University, Morocco</td>
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<td>A Case Study of Moroccan Infrastructure Project</td>
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<td>Improving Multi-Organizational Team Integration using Organizational</td>
<td>Anna Binti Rahmat and Dr. Che Khairil Izam Che Ibrahim, Universiti Teknologi MARA, Malaysia</td>
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<td>Stakeholder Management: Impact of Viewing an Organisation as a</td>
<td>Eveth Nwobodo-Anyadiegwu, Charles Mbohwa, University of Johannesburg, South Africa</td>
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<td>Single Stakeholder - Effects of Internal Departments on State</td>
<td>Shumba Lawrence, Johannesburg Water, South Africa</td>
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<td>Owned Companies: A Case of State Water Company in South Africa</td>
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<td>044</td>
<td>A Study on Benefits and Barriers of Implementing Building Information</td>
<td>Mazri Yaakob, Jessie James, Mohd Nasrun Mohd Nawi and Kamaruddin Radzuan, Universiti Utara</td>
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<td>Modelling (BIM) in Malaysian Construction Industry</td>
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<td>Technology Management for Different Types of Retail Formats: A</td>
<td>Vinayak A. Drave and RRK Sharma, IIT Kanpur, India</td>
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<td>Prospectus of IoT</td>
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<td>003</td>
<td>Feasibility of Treating Brewery Wastewater using Bio films</td>
<td>M. M. Manyuchi, C. Mbohwa and E. Muzenda, University of Johannesburg, South Africa</td>
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<td>N. Chikwama, Harare Institute of Technology, Zimbabwe</td>
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<td>204</td>
<td>Critical Success Factors for ERP Implementations: A Moroccan Case</td>
<td>Mohamed-Iliasse Mahraz, Loubna Benabbou, Abdelaziz Berrado, Mohammed V University of</td>
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<td>Study Mohamed-Iliasse Mahraz</td>
<td>Rabat, Morocco</td>
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<td>Industry Academia Knowledge Bridge: A Case Study</td>
<td>Manasi Ghamande, Department of Engineering Sciences and Humanities, Savitribai Phule</td>
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<td>University, Pune, INDIA</td>
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<td>285</td>
<td>Open Innovation Stages in the Service Sector</td>
<td>Pimprabha Sirito and Maruf Hasan, The University of New South Wales (UNSW), Australia</td>
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Session – THURSDAY (July 26): 9:30 – 11:00 am – Room R11

9:30 am – Welcome Address

Dr. Jean-Philippe Ammeux
Dean of IÉSEG School of Management

9:40 am – Opening Keynote I

Bart L. MacCarthy, BA, PhD, FIMA, FIOM, FIET
Professor of Operations Management
Division Head – Operations Management and Information Systems
Nottingham University Business School
University of Nottingham
United Kingdom (UK)

10:20 am – Opening Keynote II

Dr. Yugang YU
Executive Dean - School of Management
University of Science and Technology of China (USTC)
Hefei, Anhui, China

11:00 – 11:30 Networking Break at Exhibition Hall

Session – THURSDAY (July 26): 11:30 am – 1:00 pm

11:30 – 1:00, THURSDAY Global Engineering Education II Room B15

Session Chair: Dr. Matteo Mario Savino, University of Sannio, Benevento, Italy

11:30 – 12:00 (THURSDAY)

Dra. Ma. Ángeles Gómez Gavito
Directora Lean Advancement Initiative – México y Centro Lean Enterprise
Senior Lean Six Sigma Consultant & Black Belt
Dirección General de Internacionalización
Universidad Popular Autónoma del Estado de Puebla AC.
Piso, Barrio de Santiago, Puebla, Pue. Mexico

12:00 – 12:30 (THURSDAY)

Prof. Khumbulani Mpofu
Gibela Research Chair in Manufacturing and Skills Development
Professor – Industrial Engineering Department
Tshwane University of Technology (TUT)
Pretoria, South Africa

11:30 – 1:00 (THURSDAY)

Dr. Matteo Mario Savino
Professor
University of Sannio
Benevento, Italy
11:30 – 1:00, THURSDAY  Undergraduate Student Paper Competition  Room B16
Session Chair: Dr. Abbas Mahmoudabadi, MehrAstan University, Guilan, Iran

ID 030  Deep Groundwater Potential and Chemical Analysis Based on Well Logging Analysis at Kapuk-Cengkareng, West Jakarta, DKI Jakarta, Indonesia
J.W. Shohatang and M.S.D. Hadian, Padjadjaran University, Indonesia
T.E. Prayogi, Energy and Mineral Resources Ministry, Indonesia

ID 251  Towards Sustainable Society: Design of Food Waste Recycling Machine
Shada Benniba Aseel, Wazwaz Alaa AbuJarbou, Qatar University, Doha, Qatar

ID 370  Redesigning a Retail Store Based on Association Rule Mining
Dalal Al Attal, Mariam Naser, Nourah AlBaghli, Nourah Al Muhammed and Sarah Al Awadh, American University of the Middle East, Eqaila, Kuwait

ID 485  Design of a Centralized Warehouse Layout and Operation Flow for the Automotive Industry: A Simulation Approach
Adriana Margarita Verduzco Guzmán, Kathia Montserrat Montalvo González, Mariana Frias Canales, Maria Teresa Verduzco Garza, Universidad de Monterrey, N.L., Mexico
Fátima Briceño de la Rosa, Daimler AG, N.L., Mexico

11:30 – 1:00, THURSDAY  Big Data and Data Analytics  Room B17
Session Chair: Tang Ho Hwa, Infineon Technologies Asia Pacific Pte. Ltd, Singapore

ID 049  Adoption of Cloud Computing in Manufacturing: SWOT Analysis
Balkrishna Ekath Narkhede and Rakesh D. Raut, National Institute of Industrial Engineering (NIITIE), Mumbai, India
Vaibhav S. Narwane, Veermata Jijabai Technological Institute (VJTI), Mumbai, India

ID 338  Modeling, Building and Management User Profiles: UPMS (User Profiles Management Service)
Taous Iggui and Abdelkamel Tari, University of A. Mira de Bejaia, Algeria.
Hassina Nacer, University of Science and Technology-Houari Boumediene USTHB, Algeria

ID 378  Application of Geographically Weighted Regression Analysis on World’s Gasoline Prices Model
Tuti Purwaningsih, and Devina Gilar Fitri Ayu Sumardi, Universitas Islam Indonesia, Yogyakarta, Indonesia

ID 379  Indonesia’s Crime Rate Analysis Using Spatial Analysis Method
Lucky Suryo Wicaksono, Tuti Purwaningsih, and Hafizhan Aliady, Universitas Islam Indonesia, Yogyakarta, Indonesia

ID 300  Application of Big Data Analytics for Recommending V93K Tester Platform Focus Area with High Test Time and Index Time Deviatio
Tang Ho Hwa, Koh Mei Hwei and Romero Sunshine Ander, Infineon Technologies Asia Pacific Pte. Ltd, Singapore

ID 403  A Deep Long-Short-Term-Memory Neural Network for Lithium-Ion Battery Prognostics
Ahmed Zakariae Hinch and Mohamed Tkouat, Mohammad Al School of Engineering, Mohamed V University, Rabat, Morocco

ID 300  Application of Big Data Analytics for Recommending V93K Tester Platform Focus Area with High Test Time and Index Time Deviation
Tang Ho Hwa, Koh Mei Hwei and Romero Sunshine Ander, Infineon Technologies Asia Pacific Pte. Ltd, Singapore

11:30 – 1:00, THURSDAY  Supply Chain Management  Room B18
Session Chair: Wei Zheng, Tianjin University, Tianjin, China

ID 057  Analyzing Supply Chain Complexity Drivers using Interpretive Structural Modelling
Sujan Piya, Ahm Shamsuzzoha, Mohammad Khadem, Sultan Qaboos University, Oman

ID 075  Technological Integration and Sustainable Performance in Manufacturing Firms
Mohamad Ghazali Hassan, Muslim Diekola Akanmu, and Rushani Zien Yusof, Northern University of Malaysia, Malaysia

ID 118  5S in Container Terminals – A Framework to Reduce Container Demand Uncertainty
Poojith V S, Vishnu K and Mridula Sahay, Amrita School of Business, Amrita Vishwa Vidyapeetham University, Coimbatore, Tamil Nadu, India

ID 494  Vehicle Routing Problem for Blood Mobile Collection System with Stochastic Supply
Andrea Pirabán Ramírez, Logistic Systems Research Group, School of Engineering, Universidad de La Sabana, Campus Puente del Común, Chía, Cundinamarca, Colombia and ICD-LOS, Université de Technologie de Troyes, Cedex, France
Nacim Labadie, ICD-LOS, Université de Technologie de Troyes, Cedex, France
William Javier Guerrero Rueda, Logistic Systems Research Group, School of Engineering, Universidad de La Sabana, Campus Puente del Común, Cundinamarca, Colombia

ID 536  SEM Analysis of the Impacts of Second Order Construct of Job Demands on Employees’ Job Performance in Telecommunication Sector
Abdul Talib Bon and Abdirahman Mohamud Shire, Faculty of Technology Management, Business and Entrepreneurship, University Tun Hussein Onn Malaysia, Parit Raja, Malaysia

ID 083  Decisions on the Risk-averse Competing Firms under Enhancing Environmental Social Responsibility
Wei Zheng, Bo Li and Junhong Yang, Tianjin University, Tianjin, China
**Parallel Sessions July 26-27, 2018**

**11:30 – 1:00, THURSDAY  Quality Control and Management  Room B19**

*Session Chair: Bahar Sennaroglu, Marmara University, Turkey*

**ID 481** Issues and Improvement Opportunities in Management System Internal Audit – A Survey
Edly F. Ramly, EFR Certification Sdn Bhd, Malaysia
Mohd Soffian Osman, Safety Management Academy Sdn Bhd, Malaysia

**ID 220** Assessment of Employee Awareness and Understanding of Quality at the ABC Company
Sambil Charles Mukawungu, Charles Mbohwa, University of Johannesburg, South Africa

**ID 280** Performance of Phase II Approaches for Monitoring Multivariate Multiple Linear Profiles based on Estimated Parameters
Ahmad Ahmad Yazdi and Ali Zeinal Hamadani, Isfahan University of Technology, Iran
Amirhossein Amiri, Shahed University, Iran

**ID 368** Integrating Quality Control Charts with Maintenance: A Brief Literature Review
Gasim Mohamed Abdelrahman, Mohammad Shamsuzzaman and Imad Alsyouf, University of Sharjah, United Arab Emirates

**ID 377** A Self-Starting Risk-Adjusted AFT-based Control Chart for Monitoring the Survival Time of Patients
Elahe Tighkhorsheid, Amirhossein Amiri, Farzad Amirkhani, Shahed University, Tehran, Iran

**ID 308** Evaluating Measurement System by Gauge Repeatability and Reproducibility
Bahar Sennaroglu and Ozlem Yurtsever, Marmara University, Turkey

**11:30 – 1:00, THURSDAY  Operations Management and Operations Research  Room R03**

*Session Chair: Annabelle Glaise, IESEG, France*

**ID 195** The Impact of Valuation Heterogeneity on Equilibrium Prices in Supply Chain Networks
Alper Nakkas, University of Texas at Arlington, USA
Yi Xu, University of Maryland, USA

**ID 294** A Sophisticated Procedure for Managing Customer Service in Banking Sector of Bangladesh
Mohammad Babul Hasan and Md. Rajib Sheikh, University of Dhaka, Bangladesh

**ID 550** Numerical Analysis for Identifying Mathematical Model of Tumor Therapy
Subiyanto and Yudi Nurul Irsan, Department of Marine Science, Faculty of Fishery and Marine Science, Universitas Padjadjaran, Indonesia.
Sukono and Sudradjat Supian, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia.
Aceng Sambas, Department of Mechanical Engineering, Universitas Muhammadiyah Tasikmalaya, Indonesia
Mustafa Mamat, Faculty of Informatics and Computing, Universiti Sultan Zainal Abidin, Kuala Terengganu, Malaysia
Abdul Taib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

**ID 419** Proactive Maintenance Strategic Application to Advance Equipment Reliability
Peter Muganyi and Charles Mbohwa, University of Johannesburg, Johannesburg, South Africa
Ignatius Madanihire, University of Zimbabwe, Harare, Zimbabwe

**ID 249** Investigating the Impact of Teamwork Quality on Project Effectiveness in a Multiple-Project Management Setting
Lina Al Shatti, Kuwait Oil Company (KOC), Kuwait

**ID 278** How to Improve the Patient Flow Process in Outpatient Services of a Hospital: A Problem Structuring and Lean Management Approach
Annabelle Glaise and Christine Di Martineley, IESEG, France
Alejandra Duenas, ICN Business School, France
Isabelle Fagnon, Audencia Business School, France

**11:30 – 1:00, THURSDAY  Facilities Planning and Management  Room R11**

*Session Chair: Arnesh Telukdarie, University of Johannesburg; South Africa*

**ID 095** Layout Improvement Method Selection for a Mass Production Facility
Ugur Baç and Turan Emran Erkan, Atılım University, Turkey

**ID 303** Performance Measurement and Management for Facilities Management Companies
Abdulwahab Al Maimani, Al Muhandis Integrated Services, Oman
Mazin Al Hasni, Golden Leaf, Oman

**ID 504** Improving the Warehouse Operations in a Furniture Importing Company
Laith A Hadidi, and Abdulhakim Azzedine Zerguine, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

**ID 372** Robust Hub Location Problem with Uncertain Inter Hub Flow Discount Factor
Reza Rahmati and Mahdi Bashiri, Shahed University, Tehran, Iran

**ID 301** Determining Job Complexity in Semiconductor Manufacturing for the Prediction of Indirect Workforce Requirement
Pamela Lin, Marcus Low, Nicolas Delagneau and John Kuan, Infineon Technologies Asia Pacific Pte Ltd, Singapore

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ID 365  Determinants of Sustainable Continuous Improvement (Kaizen) Implementation in Malaysian Automotive Part Supplier SMEs
Mohd Ghazali bin Maarof and Shahryar Sorooshian, Universiti Malaysia Pahang, Pahang Darul Makmur, Malaysia
Suhaila binti Abdul Hamid, Universiti Sains Islam Malaysia, Negeri Sembilan, Malaysia

ID 413  How to Manage and Drive Change in a Small And Medium Manufacturing Production Company?
Arabi Salma, Chafi Anas and El Hammoumi Mohammed, Laboratory of Industrial Techniques (LIT), Faculty of Science and Technology, Fez, Morocco

ID 139  An Investigation of Deployment Strategies of Advanced Process Control Systems
L. L. Mpahlwa and A. Telukdarie, University of Johannesburg, South Africa

ID 442  PackageCargo - Open Source Tool based on Optimization and Simulation for the Container Loading Problem with Dynamic Stability
Juan C. Martínez, Daniel Cuellar, Edgar Céspedes and David Álvarez-Martínez, Universidad de Los Andes, Bogotá D.C., Colombia

ID 514  Biomimicry Problem-Based Approach as a Strategy for Sustainable Innovations in the Construction Industry
Oguntona A. Olusegun and Aigbavboa O. Clinton, University of Johannesburg, South Africa

ID 334  Managing Capabilities for Research Centers in the UK’s Manufacturing Sector: From Literature Review to a Conceptual Framework
Olga Uflewska, T.C. Wong and Michael Ward, University of Strathclyde, UK

Session – THURSDAY (July 26): 2:30 – 4:00 pm

2:30 – 3:00, THURSDAY
Dr. Funlade Sunmola, BEng (Hons), MSc, MA, PhD
Senior Lecturer in Manufacturing and Enterprise Engineering
Manufacturing, Material and Biomedical Group
School of Engineering and Technology
University of Hertfordshire
United Kingdom

3:00 – 3:30, THURSDAY
Dr. Ilham Kissani
Assistant Professor
Engineering & Management Science
School of Science & Engineering
Al Akhawayn University
Ifrane, Morocco

3:30 – 4:00, (THURSDAY)
Fabio Fruggiero
Assistant Professor in Industrial Systems Engineering
School of Engineering
University of Basilicata – Italy

Human Factor, Safety and Sustainability in the Industry 4.0 Era
UNDERGRADUATE RESEARCH COMPETITION

ID 369  Dynamic Programming Approach to Unit Commitment Problem for Kuwait Power Generations
Nadine Awadah, Rawan AlShikh Ali, Shaikha AlBajian, Ghalia Al-Qallaf, Muneerah Al-Hassawi, and Suat Kasap, American University of the Middle East – AUM, Egalia, Kuwait

SIMULATION AND PLM COMPETITION

ID 011  A System Dynamics Approach to Analysis of Development Policies in Occupational Health and Safety Management System
Mahdi Bastan, Leila Azizi and Almohammad Ahmadvand, University of Eyvanekey, Iran

ID 395  Digital Human Modeling and Simulation to Correct Work Postures in Dentistry
Danah Ahmad, Sarah Hashem, Sarah AlAttal, Deema AlQemlas, Kareem Abbady, and Suat Kasap, American University of the Middle East – AUM, Egalia, Kuwait

HIGH SCHOOL AND MIDDLE SCHOOL STEM PROJECT

ID 382  An Alerting Device to Prevent Death Risk in Dental Treatment
Kanticha Hothai, Thanodon Pitakwarin and Yupaporn Premkamol, Princess Chulabhorn's College Chonburi, Banbuang, Chonburi, Thailand

REVERSE LOGISTICS AND GREEN SYSTEMS

ID 137  Reverse Logistics Network Design for an E-Commerce Firm
Debadyuti Das and Rahul Kumar, University of Delhi, India
Manish Kumar Rajak, ShopClues, India

ID 457  A Closed-Loop Multi Echelon Green Supply Chain Network with Stochastic Demand
Iraj Mahdavi, Tara Esmaeipour, Milad Hematician and Ali Tajdjin, Mazandaran University of Science and Technology, Iran

ID 496  Measuring the Performance of the Reverse Supply Chain based on the BSC Approach
Faycal Mimouni and Driss Serrou, Institute of Transport and Logistics, Morocco

ID 473  An Integrated Approach with MOORA, SWARA, and WASPAS Methods for Selection of 3PLSP
Arvind Jayant and Shweta Singh, Sant Longowal Institute of Engg. & Technology, India
S. K. Garg, Delhi Technological University, India

ID 371  Scenario Reduction Approach for a Resilient Supply Chain Network
Zahra Moghim, Mahdi Bashiri, Shahed University, Tehran, Iran

ID 373  An EOQ Inventory Model for Items Consisting of Components
Nadezhda Kozlovskaya, Nadezhda Pakhomova and Knut Richter, Saint Petersburg State University, St. Petersburg, Russia

SUPPLY CHAIN MANAGEMENT

ID 233  Agent based Modelling for a Sustainable Distribution Network
Hajar Deqqaq and Abdellah Abouabdellah, Ibn Tofail University, Morocco

ID 128  Personality of Leaders of Mass Customization Firms
Dhananjay Singh and R.R.K Sharma, Indian Institute of Technology, Kanpur, India

ID 547  Signal Groups of Clique Compatible Graph in Traffic Control Problems
Mochamad Suyudi, Sukono, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia
Mustafa Mamat, Faculty of Informatics and Computing, Universiti Sultan Zainal Abidin, Tembila Campus, Terengganu, Malaysia
Abdul Taib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Johor, Malaysia

ID 549  Calculation of Net Annual Health Insurance Premium Using Burr Distribution
Agus Supriatna, Kankan Parmikanti, Lita Novita, Sukono and Betty Subartini, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia
Abdul Taib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Johor, Malaysia

ID 356  An Algorithm Model for Solving the Single-Period Inventory Transportation Problems with Deterministic Demand In Construction Industry
Mohd Kamarul Irwan Abdul Rahim, Rosman Iteng and Mohd Akhir Ahmad, Universiti Utara Malaysia, Kedah, Malaysia

ID 131  Optimizing Supply Chain Network Design With Salbp-E Assembly Line Issue
Ibrahim. O. Raji and Tommaso Rossi, LIUC - Università Carlo Cattaneo, Italy
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<td>Seong-joon Kim, Chosun University, South Korea</td>
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<td>ID 304 Performances Evaluation of Production System Taking into Account Machine Failure and Free Shipping Option</td>
<td>Turki Sadok and Nidhal Rez, Université de Lorraine, France</td>
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<td>ID 362 Preventive Maintenance Optimisation: Towards a New Model</td>
<td>Salima Hammadi, Amal Boukili, Brahim Herrou, Mohammed El Hammoumi, Sidi Mohamed Ben Abdellah University, Fez, Morocco</td>
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<td>ID 363 Methodology for Optimizing the Use of NDT in Predictive Maintenance</td>
<td>Amal Boukili, Mohammed El Hammoumi and Said Haouache, Sidi Mohamed Ben Abdellah University, Fez, Morocco</td>
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<td>ID 398 Aligning the Maintenance Strategy with the Business Context to Eliminate Hurdles in Translating the Business Strategy</td>
<td>Peter Muganyi and Charles Mbohwa, University of Johannesburg, Johannesburg, South Africa</td>
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<td>ID 412 Harnessing Technology Management to Heighten Physical Assets Reliability</td>
<td>Peter Muganyi and Charles Mbohwa, University of Johannesburg, Johannesburg, South Africa</td>
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<td>ID 330 Implementation of Accelerated Degradation Testing Methods using R-Excel Interface</td>
<td>Seong-joon Kim, Chosun University, South Korea</td>
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<td>Production Planning and Control</td>
<td>Deemah Aljuhani, University College London, UK</td>
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<td>ID 120 Optimal Control Theoretic Approach to Health Care Investment</td>
<td>Mustafa Akan, Doğuş Universitesi, Turkey</td>
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<td>ID 172 Output Level Improvement in Small and Medium-Sized Manufacturing Enterprises with Regard to Factors Influencing Production-workers</td>
<td>Bhimasen Soragaon, B P Mahesh and Anandkumar R Annigeri, JSS Academy of Technical Education, India</td>
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<td>ID 275 Discrete Event Simulation for Resource Programming: Case of Ecuadorian Textile Industry</td>
<td>Erik Orozco Crespo, Neyfe Sablón Cossio and Ramiro Vicente Saraguro Piarpuezán, Técnica del Norte University, Ecuador</td>
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<td>ID 456 A Three Echelon Supply Chain Model with Fuzzy Demands and Disruptions</td>
<td>Iraj Mahdavi and Milad Hematiyan, Mazandaran University of Science and Technology, Iran</td>
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<td>Amir Kabir University of Technology, Iran</td>
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<td>ID 501 Analysis of an Economic Order Quantity and Forecasting Models for Transmission Plant</td>
<td>Qasim M Kiri, Lawrence Technological University, USA</td>
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<td>ID 129 Improved Layout for the Pallet Loading Problem using Mega-Box Representation</td>
<td>Deemah Aljuhani and Lazaros G. Papageorgiou, University College London, UK</td>
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<td>ID 193 Effect of Internal Environment in a Virtual Team</td>
<td>Ateequr Rahman, R.R.K. Sharma and Vinayak A Drave, Indian Institute of Technology, Kanpur, India</td>
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<td>ID 438 Improving Diagnostic Reliability for Surgical Procedures Using Lean Principles</td>
<td>Javed Cheema, Neapco Drivelines Systems, Farmington Hills, United States</td>
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<td>ID 148 Simulation Modeling for Productivity Improvement of a Production Line: A Case Study</td>
<td>Subrata Talapatra, Rahnuma Tarannum and Jannatul Shefa, Department of Industrial Engineering and Management, Khulna University of Engineering &amp; Technology, Khulna, Bangladesh</td>
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<td>ID 258 Predictive Model on the Severity of Musculoskeletal Disorder and Accidents of Truck Drivers in the Philippines</td>
<td>Ma. Janice J. Gumasing and Marcelly Elaine G. Pacheco, Mapua University, Philippines</td>
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2:30 – 4:00, THURSDAY   Construction Management   Room R25

Session Chair: Deevesh Sharma, Malaviya National Institute of Technology Jaipur, India

ID 310  Investigation of Poor Service Delivery of Road Infrastructure
Nokulungan Xolile Mashwama, Didibhuku Thwala and Clinton Aigbavboa, University of Johannesburg, South Africa

ID 404  An Evaluation of Road Hump Markings in Riyadh: Detectability of the Shapes and Colors
Ahmed M. El-Sherbeeny, Woo-Hyung Park, Mohammed A. Alghufail and Abdulrahman I. Al-Husseini, King Saud University, Riyadh, KSA

ID 497  Preferred Team Roles of Construction Professionals in the South African Construction Industry
Douglas Aghimien, Ayodeji Oke, Clinton Aigbavboa, and Nokuphila Ntuli, University of Johannesburg, South Africa

Natasha Dzulkalnine, Mohamed Nor Azhari Azman and Khuan Wai Bing, Sultan Idris Education University, Perak, Malaysia
Abdul Talib Bon and Edie Ezwan Mohd Safian, Universiti Tun Hussein Onn Malaysia (UTHM), Johor, Malaysia

ID 521  Development of Regression Model for Visual Discomfort in Building Spaces: an Experimental Study
Deevesh Sharma, Awadhesh Kumar and Monica Sharma, Malaviya National Institute of Technology Jaipur, India

4:00 – 4:30: Break

Session – THURSDAY (July 26): 4:30 – 6:00 pm

4:30 – 6:00, THURSDAY   Global Engineering Education IV   Room B15

Session Chair: Balan Sundarakani, University of Wollongong, Dubai, UAE

4:30 (THURSDAY)

Carmen Pasca
Liberal Arts Department
College of Engineering and Technology
American University of the Middle East – AUM
Egaila, Kuwait

Suat Kasap
Industrial Engineering Department
College of Engineering and Technology
American University of the Middle East – AUM
Egaila, Kuwait

Thinking Ethics Differently: Challenges and Opportunities for Engineering Education

5:00 (THURSDAY)

Edly F. Ramly
Certification Director
EFR Certification
Johor, Malaysia

5:30 (THURSDAY)

Dr. Balan Sundarakani, B.Eng, M.Eng, PhD
Associate Professor, Supply Chain Management
Discipline Leader, MSc Logistics
Faculty of Business & Management
University of Wollongong
Dubai, UAE

Big Data Driven Supply Chain Analytics
### Competitions

**Room B17**

**Session Chair:** Dr. Ali Siadat, Professor, Arts et Métiers ParisTech de METZ, Metz, France

**GRADUATE STUDENT PAPERS COMPETITION**

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<td>Introducing Statistical Process Control Techniques into a Headliner Subassembly Process</td>
<td>Torie G. Rose, Lawrence Technological University, USA</td>
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<td>458</td>
<td>The Effect of Ceiling Height on Thermal Comfort for Ceiling-Based Air Distribution Systems Vs Underfloor Air Distribution Systems in an Office Space</td>
<td>Meshal AlOtaibi, University of Kansas, USA</td>
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**DOCTORAL DISSERTATION COMPETITION**

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<td>Bi-level Programming Model for Combining Motivation, Opportunity and Ability Factors in Knowledge Sharing</td>
<td>Mohsen Tabatabaei, Abbas Afrazeh and Abbas Seifi, Amirkabir University of Technology, Tehran, Iran</td>
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### Service Systems and Service Management

**Room B18**

**Session Chair:** Camila S. Mattos, Federal University of Santa Catarina - UFSC, Brazil

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<td>A Comparison of Ambulance Location Models in Two Mexican Cases</td>
<td>Jenny Diaz Ramirez, Edgar Granda, Bernardo Villarreal, Universidad de Monterrey, México</td>
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<td>007</td>
<td>A Multiple Criteria Approach for Defining the Ambulance System Structure: A Case Study</td>
<td>Yazmin Maldonado, Instituto Tecnológico de Tijuana, Mexico</td>
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<td>004</td>
<td>Improve an Emergency Medical System Capacity with Theory of Constraints</td>
<td>Bernardo Villarreal, Jenny Diaz Ramirez, Aracely Carranza, Gabriela Morales &amp; Arturo Quezada, Universidad de Monterrey, México</td>
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<td>061</td>
<td>Managing Customer Requirements for an Effective Service Implementation in a Product-Service System (PSS)</td>
<td>Nicolas Haber, Mario Fargnoli, Ahmad Ababneh and Massimo Tronci, Sapienza - University of Rome, Italy</td>
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<td>141</td>
<td>Study of Service Operations of Metro: Action Research Embedded with Case Study</td>
<td>Niyazudeen Kamarudeen and Balan Sundarakani, University of Wollongong in Dubai, Knowledge Park, Dubai, UAE</td>
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<td>096</td>
<td>Proposal to Assess the Results of Service Modularization</td>
<td>Camila S. Mattos, Diego C. Fettermann, and Paulo A. Cauchick-Miguel, Federal University of Santa Catarina - UFSC, Brazil</td>
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### Supply Chain Management

**Room B19**

**Session Chair:** M. Khurshid Khan, Abdul Wali Khan University, Pakistan

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<td>Investigating Supply Chain Performance and Supply Chain Integration Linkage in Jordanian Manufacturing Firms</td>
<td>Vikas Kumar, Jack Zeidan, Archana Kumari, University of the West of England, Bristol, UK, Jose Arturo Garza-Reyes, University of Derby, Derby, UK, Jiri Tupa, University of West Bohemia, Plzen, Czech Republic</td>
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<td>Thi Hong Dang Nguyen and Thien-My Dao, l’Université du Québec, Montréal, QC, Canada</td>
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<td>455</td>
<td>Achieving Sustainability in Construction through Value Management</td>
<td>Douglas Aghimien, Ayodeji Oke, Clinton Aigbavboa, University of Johannesburg, South Africa</td>
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<td>Developing a Risk Assessment Model for non-Technical Risk in Energy Sector</td>
<td>Sahar Mohammad AL Mashaqbeh, J. E. Munive–Hernandez, University of Bradford, UK, M. Khurshid Khan, Abdul Wali Khan University, Pakistan</td>
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### Reliability and Maintenance

**Room B20**

**Session Chair:** Indra Gunawan, The University of Adelaide, Australia

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<td>Fatoni and Rahmat Nurcahyo, Universitas Indonesia, Indonesia</td>
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<td>GA-based Corrective Maintenance Scheduling for Port Facilities with Multiple Maintenance Modes</td>
<td>Danping Lin, Chen Chen and Daofang Chang, Shanghai Maritime University, China</td>
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<td>A.Elwerfalli, M. K. Khan and Munive-Hernandez, University of Bradford, UK</td>
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<td>Calculating the Effect of Maintenance Human Error Factors on Total Cost</td>
<td>Rogelio Emmanuel Jáuregui Miramontes and Yuri A. Lawryshyn, University of Toronto, Canada</td>
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<td>Vulnerability Analysis of Water Distribution Networks Using Betweeness Centrality and Information Entropy</td>
<td>Seyed Ashkan Zarghami, Indra Gunawan and Frank Schultmann, The University of Adelaide, Australia</td>
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4:30 – 6:00, THURSDAY
Operations Management and Operations Research
Room R03
Session Chair: Eghbal Rashidi, Santa Clara University, Santa Clara, USA

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| 448 | Development of Approximation Algorithms for Minimizing the Average Flowtime and Maximum Earliness with Zero Release Dates | Saheed Akande, Afe Babalola University, Ado-Ekiti Nigeria
Ayodeji. E. Oluleye, University of Ibadan, Ibadan, Nigeria
E.O. Oyetunji, Lagos State University, Lagos, Nigeria |
| 480 | Risk Assessment Decision Matrix for Emergency Room's Employee in a Turkey Case | A. Nilgun Kayadelen, Cukurova University, Turkey
Piril Tekin, Adana Science and Technology University, Turkey |
| 040 | A Heuristic Policy for Outpatient Surgery Appointment Sequencing: Newsvendor Ordering | Farzaneh Mansouri, Alzahra University, Iran
Parisa Mansouri, Morteza Ziyadi and Bhaskar Krishnamachari, University of Southern California, USA |
| 163 | A Process Improvement Study in an Emergency Department Using Lean Methodology | Nirouz Abeidi, University of Benghazi, Libya
Ali Turkyilmaz, Nazarbayev University, Kazakhstan
Ozgur Uysal, American University of the Middle East, Kuwait |
| 319 | Impact of Organizational Culture on Service Quality | Yonela Gantsho and Nita Sukdeo, University of Johannesburg, South Africa |
| 429 | Semiconductor Manufacturing Planning under Demand, Production and Process Yields Uncertainties | Eghbal Rashidi, Santa Clara University, Santa Clara, USA
Scott Mason, Clemson University, Clemson, USA |

4:30 – 6:30, THURSDAY
Global Operations and Manufacturing
Room R11
Session Chair: Jen Ling Gan, Universiti Teknologi Malaysia

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| 116 | A Measurement Instrument for Manufacturing Competitiveness of Automotive Industry Parts Suppliers in Mexico | Luz María Valdez de la Rosa, Universidad de Monterrey, México
Luis Alberto Villarreal Villarreal, Universidad Autónoma de Nuevo León, México
Juan Baldemar Garza Villegas, Signux Group, México |
| 230 | Design of a Global Sourcing Strategy to Reduce Assembly Components Cost: A Case Study | Teresa Verduzco-Garza, Marcos Cisneros, Francisco Lopez and Daniela Santiago, Universidad de Monterrey, Mexico |
| 495 | Study of Impact of Industrial Logistics Function on the Performance of the PME Case Maintenance Function in Morocco | Driss Serrou, ISTL, Casablanca, Morocco
Faycal Ml Mouni, ISTL, Casablanca, Morocco |
| 322 | Finding the Optimal Path of Airline Flight Plans using Simulation | İlgün Orbak, Maltepe University, Turkey
Âli Yurdun Orbak, Uludag University, Turkey |
| 062 | Creation of an Automated Warehouse Management System | Johannes Mapokgole and Tengen Thomas, Vaal University of Technology, South Africa |
| 295 | A Method to Measure Overall Material Efficiency in Semiconductor Backend Manufacturing Environment | Tang Ho Hwa and Ang Xinhao, Infineon Technologies Asia Pacific Pte. Ltd, Singapore
Ku Swee Hiong, Infineon Technologies (Malaysia) Sdn. Bhd, Malaysia
Gao Xing, Infineon Semiconductors (Wuxi) Co. Ltd, China |
4:30 – 6:30, THURSDAY
Inventory Management
Room R25

Session Chair: Budi Santosa, Institut Teknologi Sepuluh Nopember, Indonesia

**ID 092  A Robust Optimization Approach to an Inventory System with Emergency Lateral Transshipment**
Hamed Tayebi, Islamic Azad University, Iran
Soraya Nemati, Noore Touba University, Iran

**ID 152  Models of Performance Evaluation of Spare Parts Inventory Management**
Oumaima Bournou, Abdellah El Barkanyb and Ahmed El Biyaalic, Sidi Mohammed Ben Abdellah University, Morocco

**ID 005  Reduce Slow Moving Inventory of Convenience Stores: A Case Study**
Bernardo Villarreal, Leslie Sosa, Jesus Vazquez, Estefania Quintanilla, Mariana Herrera & Delia Villareal
Universidad de Monterrey, México

**ID 042  Percentile Policies for Inventory Problems with Partially Observed Markovian Demands**
Farzaneh Mansourifard, Alzahra University, Iran
Parisa Mansourifard and Bhaskar Krishnamachari, University of Southern California, USA

**ID 154  Optimal Vendor-Buyer Cooperative Inventory Policy for Order Size Dependent Transportation Cost**
Sharon Orengo, Md. Shahrriar J. Hossain and Bhaba R. Sarkar, Louisiana State University, USA

**ID 226  Modeling and Optimal Replenishment of Bi-Objective, Green, and Integrated EPQ Model under the QC Policy**
Abolfazl Gharaei, University of Toronto, Canada

**ID 389  Integrating a Supply Chain with Vendor Managed Inventory and Joint Replenishment Policies**
Milad Khajehnezhad, University of Wisconsin-Milwaukee, Milwaukee, USA

**ID 474  Multiple Can-Order Level for Can-Order Policy Optimization: A Case Study**
Budi Santosa and Faldy Maulana Yuantoro, Institut Teknologi Sepuluh Nopember, Indonesia

6:00 – 7:30 (THURSDAY) - Poster Session

**Posters**

**ID 023  Improvement of Superficial Hardness of S355JR Steel by Superficial Plastic Deformation**
Abdeldjalil Bouri, Mounira Bourbia and Sihem Achouri, Industrial Technologies Research Center. CRTI, Algeria
Laouar Lakhdher, Badji Mokhtar University, Algeria

**ID 028  Identification and Ranking of Innovation Management Factors in Petrochemical Companies Producing Polyethylene Products**
Yadollah Sadeghi and Abbas Khamseh, Islamic Azad University, Iran

**ID 031  Derive Poker Winning Probability by Statistical JAVA Simulation**
Mason Chen, Stanford OHS, USA

**ID 032  The Role of Information Sharing on Supply Chain**
Mahdie sheikhi, Hormozgan Regional Electric Company, Bandarabasses, Iran
Maryam Goodarzi, Islamic Azad University, Tehran Iran
Abozar Nowrozinejad, Islamic AZAD UNIVERSITY, Tehran, Iran
Saeede Sheikhi, Amir Kabir University Tehran Iran

**ID 066  An Assessment of the Lean Deployment in the Mauritian Textile Industry**
Keshav Ramgoolam and Needesh Ramphul, University of Technology, Mauritius

**ID 073  Fuzzy Logic Control System in Medical Field**
Brahmi Samira and Zermane Hanane, Batna 2 University, Algeria

**ID 079  Solutions to Overcome Current MCDM Limitations**
Yasaman Parsia and Puteri Fadzline Muhamad Tamyez, Universiti Malaysia Pahang, Malaysia

**ID 084  Video Game: Continuous Track Design**
Jason Li, San Mateo High School, San Mateo, USA
Mason Chen, Stanford OHS, Palo Alto, USA

**ID 086  Predict NBA Team Winning Record**
Mason Chen, Stanford OHS, USA

**ID 087  Study Baseball Pitching/Swing Contact Quality**
Mason Chen, Stanford Online High School, United States

**ID 088  Choose Healthy Chocolate**
Mason Chen, Stanford OHS, Palo Alto, USA
ID 094  Design Thinking in Product Configuration Projects
Sara Shafiee, Saeedeh Shafiee Nahrkhalaji, Lars Hvam and Niels Henrik Mortensen, Technical University of Denmark, Denmark

ID 098  Product Modularization in the Architecture, Engineering and Construction (AEC) Industry
Sara Shafiee and Lars Hvam, Technical University of Denmark, Denmark
Poorang Piroozfar, University of Brighton, UK

ID 100  Role of Hospital Management on Minimization Risks of Nosocomial Infections
Yasaman Parsia and Puteri Fadzline Muhamad Tamyez, Universiti Malaysia Pahang, Malaysia

ID 113  Application of Value Stream Mapping and Monte Carlo Simulation in a University Hospital
Leonardo Bittencourt de Souza, Guilherme Luz Tortorella, and Paulo A and Cauchick-Miguel, Federal University of Santa Catarina - UFSC, Brazil
Daniel Nascimento, Pontifícia Universidade Católica do Rio de Janeiro – PUC-RJ, Brazil

ID 136  Cartesian Transformations of Polar Coordination
Kyuman Kim, CheongShim International Academy, South Korea

ID 162  Investigating the Awareness of Decision-Making Heuristics and Biases in the Selection and Definition of Infrastructure Projects
Mohamed Ali, Michael Emes and Raül Leal, University College London, UK

ID 164  Appointment Scheduling Optimization for Specialist Outpatient Services
C. K. M. Lee, KKHH Ng and M. C. Cheng, The Hong Kong Polytechnic University, China

ID 184  An Environmental Concrete with Algerian Concrete
Saida Kitouni, Constantine 3 University, Algeria

ID 227  Optimum Entrance Rate to Mechanical Assembly Line of RIO Vehicle in SAIPA Corporation
Abolfazl Gharaei, University of Toronto, Canada
Mohammad Ali Ashtari Jafari, Kharazmi University, Iran

ID 229  Optimum Speed of Conveyor in Mechanical Assembly Line of RIO Vehicle in SAIPA Corporation
Abolfazl Gharaei, University of Toronto, Canada
Mohammad Ali Ashtari Jafari, Kharazmi University, Iran

ID 235  Stochastic Optimization of Dairy Supply Chain Valorization Model by Considering Byproducts
S.Rozita Ebrahimi and Farid Khoshalhan, Industrial engineering department of K.N.Toosi University of technology, Iran
Hamed Ghaderzadeh, University of Kurdistan, Iran

ID 257  Implementation of Lean & Agile Strategy in Plant and Equipment Procurement in Tertiary Institutions
Bashir Garba.I, Muhammad Dauda, F.O Anafi and Bello Sabo, Ahmadu Bello University, Zaria, Nigeria

ID 266  Strategic Collaborative Planning Model And Its Applications in Ecuador, Mexico and Cuba
Neyle Sablón Cossio and Erik Orozco Crespo, Universidad Técnica de Manabí, Ecuador
Manuel Lázar Pérez Quintana and Ruth I. Areas Gutierrez, Amazon State University, Ecuador
Horacio Bautista Santos and Fabiola Sánchez Galván, Instituto Tecnológico Superior de Tantoyuca, México

ID 288  Total Productive Maintenance: A Tool to Reducing Downtime in a Plant
Yusuf Sanni O., University of Lagos, Akoka, Nigeria

ID 292  Preparation and Evaluation of Carbon Synthesized by Chemical Activation of Mango Seeds
Alicia Chen and Emily Chen, Dublin High School, CA, USA

ID 311  Identifying and Ranking the Effective Factors of Business Intelligence on the Organizational Strategic Decisions
Mahdiar Rahro and Alireza Soleimanmafi, Tarbiat Modares University, Tehran, Iran

ID 316  Design & Fabrication of 3-axis CNC Milling (Project Based Learning in Mechanical Design)
Bandar Zahid, Khalid Ababtain, Fayyaz Nadeem and Hazim Abdulaziz Moria, Yanbu Industrial College, Saudi Arabia

ID 321  Supervision of an Industrial Process of Milk Production using Fuzzy Logic
Hanane Zermane, Samira Brahmi, Naima Zerari and Rachad Kasmi, Laboratory of Automation and Manufacturing, Industrial Engineering Department, University Batna 2, Batna, Algeria

ID 324  Discrete Event Simulation for Chemotherapy Patient Flows
Dang Khoi Pham and Christine Di Martinelly, IESEG School of Management, France
Alejandra Duranas, ICN Business School (CEREFIGE), France

ID 327  Design and Optimization of Plastic Shredder Blade
Sekar L Ravi, Rajalakshmi Engineering College, India

ID 329  Procedure for the Ergonomic Risks Management, with a Process Approach, in Organizations
Yolaine Cisneros Rodríguez, Marisol Pérez Campaña, Claudia Díaz Leyva and Miguel A. Cisneros Prieto, University of Holguin, Cuba

ID 333  Evaluation of Control Activities through Diffuse Compensatory Logic in a Hospital Entity
Leudis Orlando Vega de la Cruz, Mayly Torres Álvarez and Ileana Tapia Claro, University of Holguin, Cuba
ID 335  Conceptualization of the Current Status of the Impact Evaluation of Human Resources Training in Organizations
Claudia Díaz Leyva, Clara Marrero Fornaris, Carlos Nuñez Cruz and Yolaine Cisneros Rodríguez, University of Holguin, Cuba

ID 336  Optimization of Production in Workshops with Reconfigurable Machine Tools
Pedro Díaz Leyva, Company BRASCUBA Cigarrillos SA, Cuba
Claudia Díaz Leyva, Aylín Pupo Pérez and Mayly Torres Álvarez, University of Holguin, Cuba

ID 357  Achieving Procurement Excellence through A Bayesian Network Modelling Approach
Mohammad Hassan Abolbashari, School of Business, University of New South Wales, Australia

ID 375  Developing Thai and English Braille Fonts by using FontForge.
Sathaphon Cheratummakool and Punthat Siriwan, Princess Chulabhorn’s College Chonburi, Thailand

ID 376  How Can Sustainability Strategy of Supply Chain Management In University?
Lenny Ch Nawangsari and Ahmad Hidayat Sutawidjaya, Mercu Buana University, Jakarta, Indonesia

ID 390  Use of Data Mining and Neural Network Algorithms to Optimize the Implementation of Value Engineering in Projects
Aimeh Mofidi Naeini and Mohamad Bozorgi, Iran

ID 400  Thermography Monitoring and Diagnostic Tool in Predictive Maintenance
Amal Boukili and Mohammed Mesrar, Sidi Mohamed Ben Abdellah University, Fez, Morocco

ID 405  Developing of an Open Source Eletrocardiogram Prototype
Suppakit Chantarasittipol and Thanat Burmungsavat, Princess Chulabhorn’s College Chonburi, Thailand

ID 409  Proposal of Procedure for Maintenance Management in Plastics Processing Factories of Cuba
Márian Pérez Pérez and Ángel Tomás Pérez Rodríguez, University of Holguin, Cuba Ave. Holguín

ID 411  Reviewing Postponement in the South African Automobile Industry: A Literature Review Perspective
Polycarpe Feussi, University of Johannesburg, South Africa

ID 424  Starbucks Coffee Statistical Analysis
Anna Wu, Mission San Jose High School, Fremont, USA

ID 433  Comparison of Different Designs of the FAST-Mobile
Abdul Rauf and Anjum Ali, National University of Computer and Emerging Sciences, Lahore, PAK

ID 434  Inventory Control Policies in the Humanitarian Supply Chain Using System Dynamics Modeling
Ali Anjomshoae, Adnan Hassan and Kuan Yew Wong, Universiti Teknologi Malaysia, Skudai, Malaysia

ID 447  Procedure to Manage the Suitability of Workers in Public Health Entities
Carlos Rafael Nuñez Cruz, Leudis Orlando Vega de la Cruz and Claudia A. Díaz Leyva, University of Holguin, Holguín, Cuba

ID 488  Ranking the Needs of Students with Disabilities at the University of Sharjah and Identifying the State of the Art of Assistive Technologies
Mohamed Adam, Saif AlKhaja, Mohammed Alsafadi, Mohammed Baraa Sayour, Sadeque Hamdan, and Imad Alsyouf, University of Sharjah, UAE

ID 525  Proposal of Procedure for Maintenance Management in Plastics Processing Factories of Cuba
Márian Pérez Pérez, University of Holguin, Holguín, Cuba
Ángel Tomás Pérez Rodríguez, University of Holguin, Holguín, Cuba

Senior Capstone Design Poster Competition
Chair: Dr. M. Shamsuzzaman, University of Sharjah, UAE

ID 374  Improvement of Diabetes Awareness: Applying Six Sigma to Increase Teachers Awareness Regarding Diabetic Children in Primary Schools in Kuwait
Fatemah Al-Juhaim, Layali Al-Dhefeeri, Rawan Al-Shatti, Shaikha AlDaboos, and Walid Smew, American University of the Middle East (AUM), Eqaila, Kuwait
8:00 – 9:30, FRIDAY     Industry Solutions     Room B15

Session Chair: Dr. Eldon Caldwell, University of Costa Rica

8:00 – 8:25 (FRIDAY)

Foad Hosseinkhanli
Director of Quality Assurance, Performance and Business Improvement
Amor Health Services, Inc.
Brownsville, Texas, USA
Certified Master Black Belt
Certified Scrum Master
Certified Quality Assurance Engineer

**Risk Assessment Made Easy in Health Care Industry by Applying Lean Six Sigma Methodology**

8:25 – 8:50 (FRIDAY)

Aaron Burciaga
Vice President Data Science & Machine Intelligence
Booz Allen Hamilton
Washington D.C., USA

**When the Signal IS the Noise: Impending Ubiquity and Opportunity of Sensors and Machine Intelligence On The Edge**

8:50 – 9:10 (FRIDAY)

Dr. Abdul Talib Bon
Professor of Technology Management
Department of Production and Operations Management
Universiti Tun Hussein Onn Malaysia

**Optimization Techniques for Transportation Problems in Warehouse of a Furniture Industry using Arena Simulation**

9:10 – 9:30 (FRIDAY)

Dr. William Msekiwa Goriwondo (PhD, FZwelE, Pr. Eng., MioDZ)
Executive Dean
Faculty of Industrial Technology
National University of Science and Technology (NUST)
Zimbabwe

**Industry – Academia partnerships in enhancing engineering education in Zimbabwe. Case Study of the National University of Science and Technology (NUST) in Zimbabwe**

8:00 – 9:30, FRIDAY     Product Design and Development     Room B17

Session Chair: Salima Hammadi, Sidi Mohamed Ben Abdellah University, Fez, Morocco

ID 034  Design for manufacture and assembly of a mini combine wheat harvester: Case of a developing nation - Zimbabwe.
Rumbidzai Prosper Jera, University of Zimbabwe, Zimbabwe
Tawanda Mushiri and Charles Mbohwa, University of Johannesburg, South Africa

ID 035  Design for Manufacture and Assembly of an Automated Mirror Cutting Machine
Allen Hondo, University of Zimbabwe, Zimbabwe
Tawanda Mushiri and Charles Mbohwa, University of Johannesburg, South Africa

ID 036  Design for Manufacture and Assembly of an Automated Wood Cutter: Case for Developing Country
Ruvimbo Constance Mhlanga, University of Zimbabwe, Zimbabwe
Tawanda Mushiri and Charles Mbohwa, University of Johannesburg, South Africa

ID 477  Resource Recovery from Corn Residues through Production of Biogas and Bio-hydrogen
M. M. Manyuchi, C. Mbohwa and E. Muzenda, University of Johannesburg, South Africa
F. Moyo, Harare Institute of Technology, Zimbabwe
### PARALLEL SESSIONS

#### Information Technology and Information Systems

**8:00 – 9:30, FRIDAY**

**Session Chair:** Agung Terminanto, Universitas Indonesia, Depok, Indonesia

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<td>Strategic Alignment of Information Systems Flexibility with Organization’s Operational and Manufacturing Philosophy: Developing a Theoretical Framework</td>
<td>Somen Dey and R.R.K. Sharma, Indian Institute of Technology Kanpur, India</td>
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<td>Integrating Business Process Management with Public Sector</td>
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<td>Virtual Power Plant Basic Requirements for Integration of Distributed Energy Resources, Driven by Industry 4.0</td>
<td>Oliver Nwauka, Arnesh Telukdarie and Johan Enslin, University of Johannesburg, South Africa</td>
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<td>Juan Camilo Paz and John Willmer Escobar, Pontificia Universidad Javeriana Cali, Valle del Cauca, Colombia</td>
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<td>Chouaib Elhammouchi and Abdellah Abouabdellah, University Ibn Tofail, Morocco</td>
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**Room B18**

#### Logistics, Transport and Traffic Management

**8:00 – 9:30, FRIDAY**

**Session Chair:** Eric Wibisono, University of Surabaya, Indonesia

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<td>Rim Sghiouri and Abdellah Abouabdellah, University Ibn Tofail, Morocco</td>
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<td>Gustavo Alvarez Coello, Jorge Muñoz Falconi and Fernando Rivas Paz, Universidad del Azuay, Ecuador</td>
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**Room B19**

#### Reliability and Maintenance

**8:00 – 9:30, FRIDAY**

**Session Chair:** Mei Li, Tianjin University, China

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**Room B20**

© IEOM Society International 2nd European Conference
ID 109  Evaluating the Impact of Total Productive Maintenance elements on a Manufacturing Process
Mthetheleli Joseph Kwaso and Arnesh Telukdarie, University of Johannesburg, South Africa

ID 279  Modeling and Performance Analysis of a Flexible Manufacturing Cell with Machine Failures
Abdulmajeed Dabwan, Husam Kaid, Abdurrahman M. Al-Ahmari, and Tariq Aziz, King Saud University, Saudi Arabia

ID 127  Incision Infection Risk Assessment in Laparoscopic Acute Appendectomy based on Dynamic Fault Tree
Mei Li and Zixian Liu, Tianjin University, China

8:00 – 9:30, FRIDAY  Operations Management and Operations Research  Room R03
Session Chair: Ndala Yves Mulongo, University of Johannesburg, Auckland Park, South Africa

ID 041  A Game Theoretic Approach to Newsvendor Problems with Censored Markovian Demand
Parisa Mansourifard and Bhaskar Krishnamachari, University of Southern California, USA
Farzaneh Mansourifard, Alzahra University, Iran

ID 056  Outsourcing and (Theoretical) Evolutionary Biology
Rob Dekkers, University of Glasgow, Scotland

ID 067  Using System Dynamics Approach to Examine the Impact of ERP and Lean on Manufacturing Performance
Thi Phuong Dung Ho, Arun Kumar and Nirajan Shiwalikoti, RMIT University, Melbourne, Australia

ID 160  A Robust Optimization Approach for Supply Network Design under Uncertainties
Carles Sitomput, Yogi Yusuf Wibisono, and Reynold Andika, Universitas Katolik Parahyangan, Indonesia

ID 165  Analysis of Customer Satisfaction: A Case Study of the Banking Sector in South Africa
Khathutshelo Mushavhanamadi and Joy Hope Mavimbela, University of Johannesburg, South Africa

ID 166  Exploring the Significance of Service Quality in Achieving Customer Satisfaction
Khathutshelo Mushavhanamadi and Casendra Sehlare, University of Johannesburg, South Africa

8:00 – 9:30, FRIDAY  Systems Dynamics  Room R11
Session Chair: Mahdi Bastan, University of Eyvanekey, Iran

ID 502  A System Dynamics Approach Model for Quitting Smoking Behaviour and an Analysis in Turkey
Ugur Hosylimaz and Volkan Cakir, Istanbul Arel University, Turkey

ID 508  Analysis of Project Profitability and Schedule Overruns Using System Dynamics - A Case Study of Trigeneration System
Ali Firat Elci and Volkan Cakir, Istanbul Arel University, Turkey

ID 307  Banking Soundness System: A System Dynamics Model
Mohammad Bagheri Mazrae and Alimohammadm Ahmadvand, University of Eyvanekey, Iran
Azam Ghezelbash, Ferdowsi University of Mashhad, Iran

ID 385  Identifying the Critical Communicational Factors Relations in EPC Projects: A DEMATEL Framework
Sara Sajedi, Naser Shams Gorahneh, Amirkabir University of Technology, Tehran, Iran

ID 393  Developing a Comprehensive and Multi-Objective Mathematical Model for University Course Timetabling Problem: A Real Case Study
Amin Jamili, Mahdi Hamid, Hassan Gharoun and Roohollah Khoshnoudi, University of Tehran, Iran

ID 435  Towards a Reliable Decision Making on Safety Barriers Performance based on Expert Judgments in the Framework of BORA Approach
Mouloud Bourareche, Zakarya Chiremsel, Rachid Nait-Said and Nouara Ouazraoui, University of Batna, Batna, Algeria

8:00 – 9:30, FRIDAY  Manufacturing Design and Servitisation  Room R25
Session Chair: Javier Cruz-Salgado, Centro de Investigaciones en Óptica, México

ID 060  Designing ecofriendly Product-Service Systems (PSSs) through morphological reasoning
Nicolas Haber, Mario Fargnoli, Ahmad Ababneh and Massimo Tronci, Sapienza - University of Rome, Italy

ID 197  A Sequential Guillotine Cut Heuristic to Design Insulating Envelopes
Andrés F. Barco, Universidad de San Buenaventura, Colombia
Michel Aldanondo and Élise Vareilles, Université de Toulouse, France

ID 467  Development of the Industrial Model of a Phosphate Destoning Unit
Fatima-Ezzahra Choubi and Laurent Deshayes, Mohammed VI Polytechnic University, Morocco
9:30 – 11:00 am: FRIDAY Morning Keynote III & IV – Room R11

9:30 – 10:15 am: FRIDAY Morning Keynote III

Pascale Herman
Marketing Director
Valeo Thermal Systems Business Group
Paris, France

Charles Sagna
Thermal Academy Director
Valeo Thermal Systems Business Group
Paris, France

Presentation Title – New Solutions for Car Interior Comfort, a Revolution in Health & Well-being, New Development Methods User Centric

10:15 – 11:00 am: FRIDAY Morning Keynote IV

Dr. Frédéric MORET
Industrial Director of Faurecia
Paris, France

Nicolas SILVESTRE
Digital Transformation Director
Faurecia

Stéphane COUDURIER CURVEUR
Industrial Process Performance Excellence Injection Senior Manager & Senior Expert
Faurecia - Interiors - Central Manufacturing
Méru, France

Presentation Title – Digital Transformation of an Automotive Tier-1 Production System

11:00 – 11:30 – Networking Break
Session – FRIDAY (July 27): 11:30 am – 1:00 pm

**Session – FRIDAY (July 27): 11:30 am – 1:00 pm**

**Sustainability**

**Room B15**

ID 538  The implications of Artificial Intelligence on Soweto Furniture Manufacturing SMEs
Lawrence Seseni and Charles Mbohwa, Department of Quality and Operations, University of Johannesburg, Auckland Park, South Africa

Tatenda Talent Chingono, University of Johannesburg, South Africa

ID 544  Plastics Waste Reverse Logistics in Johannesburg
Tatenda Talent Chingono, University of Johannesburg, South Africa

ID 552  Determining the Numbers of Time Series Observation for Rice Crisis Forecasting
Yuyun Hidayat and Tit Purwandari, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia
Sri Rijati Wardiani, Department of Literature and Cultural Studies, Faculty of Cultural Sciences, Universitas Padjadjaran, Indonesia
Sukono, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

ID 553  Integration of Quality, Health & Safety, Environment and Social accountability under a single Management System
Subrata Talapatra, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna, Bangladesh
Md. Kutub Uddin, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh

ID 556  Evaluating the role of collaboration in NPD team climate for innovation
Syeda Asiya Zenab Kazmi and Marja Naaranoja, University of Vaasa, Finland

ID 559  Overall Efficiency Improvement of a Production Line by Using Yamazumi Chart: A Case Study
Subrata Talapatra, Sharif-Al-Mahmud and Imran Kabir, Department of Industrial Engineering and Management, Khulna University of Engineering and Technology, Khulna, Bangladesh

**Product Design and Development**

**Room B17**

ID 315  An Innovative Tool to Design around Patent
Mohammad. S. Eslamipour and M.R. Moradi, Mapna Generator Co., Iran

ID 360  Stress Behaviour of Composite Materials with Natural Fibers from the South Pacific
Nicholas Lambrache, John Pumwa, Ora Renagi and Brian N'Drelan, PNG University of Technology, Morobe, Papua New Guinea
Lidia Olaru, Jesta Group, Montreal, Quebec, Canada

ID 361  Failure of Francis Water Turbines due to Flow Variations in Papua New Guinea
Nicholas Lambrache, John Pumwa, Dapsy Olatona, Mihail Ursul and Brian N'Drelan, PNG University of Technology, Morobe, Papua New Guinea

ID 462  Vendor Development Program: An Empirical Validation of Vendor Performance through Business Excellence Framework
Zarak Sh. Zamrah and Safian Sharif, University of Technology Malaysia, Malaysia

ID 463  Design of a Mobile Reciprocating Pumping System for Platinum Mines (Pneumatically Powered) - Case for Zimbabwe
Martha Simbisai Ganyani, University of Zimbabwe, Zimbabwe
Tawanda Mushiri and Charles Mbohwa, University of Johannesburg, South Africa

ID 267  New Product Quality and Timing under Competition
Sudhakar D. Deshmukh, Northwestern University, USA

**Information Technology and Safety**

**Room B18**

ID 045  Management Challenges in Product Configuration Projects
Sara Shafiee and Lars Hvam, Technical University of Denmark, Denmark
Yves Wautelet, Centre for Information Management, KU Leuven, Belgium

ID 454  Connected Vehicles using NDN for Intelligent Transportation Systems
Zakaria Sabir and Aouatif Amine, Ibn Tofail University, Morocco

ID 490  Design Improvement of Off-road Rough Uneven Rural Terrain Wheelchair
Ignatio Madanhire and Isheanesu Zimba, University of Zimbabwe, Zimbabwe
Charles Mbohwa, University of Johannesburg, South Africa
ID 149  Advanced Generation NIOSH Automatically Deployable Rollover Protective Structure (AutoROPS)
Khaled Alkhaledei, Industrial and Management Systems Engineering Department, Kuwait University, Alkhaledeya, Kuwait
Kenneth Means, Mechanical and Aerospace Engineering Department, West Virginia University, Morgantown, West Virginia, USA
Eugene A McKenzie, Jr., The National Institute for Occupational Safety and Health (NIOSH), Morgantown, West Virginia, USA

ID 551  A New Four-Dimensional Two-Wing Chaotic System with a Hyperbola of Equilibrium Points, its Properties and Electronic Circuit Simulation
Sundarapandian Vaidyanathan, Research and Development Centre, Vel Tech University, Avadi, Chennai, India
Aceng Sambas, Department of Mechanical Engineering, Universitas Muhammadiyah Taskmalaya, Indonesia
Sukono, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia
Subiyanto, Department of Marine Science, Universitas Padjadjaran, Indonesia
Mustafa Mamat, Faculty of Informatics and Computing, Universiti Sultan Zainal Abidin, Kuala Terengganu, Malaysia
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

11:30 – 1:00, FRIDAY  Logistics, Transport and Traffic Management  Room B19
Session Chair: Berrak Fatimazahae, Sidi Mohamed Ben Abdellah University, Morocco

ID 178  Solving the Capacitated Single Allocation Hub Location Problem Using Genetic Algorithm
Fatima Zahraa Grine, Oulaid Kamach and Naoufal Sefiani, National School of Applied Sciences of Tangier, Morocco
Vigneshwar Pesaru, ORMAE, India

ID 191  Development of Variable Toll Pricing Strategy to Manage Traffic Congestion at Metro Manila Skyway
Queen Jean Flores, Bien Carlo Realon, Lindley Bacudio, and Giselle Joy Esmeria, De La Salle University, Philippines

ID 201  Constructive Heuristic Algorithms for Solving the Vehicle Scheduling Problem for Public Transportation with Multiple Depots
César Augusto Marín, Luis Miguel Escobar and Rubén Bolaños, Integra S.A., Colombia
John Willmer Escobar, Javeriana University, Colombia

ID 203  An Efficient Algorithm for Work Shift Scheduling in the Operation of Massive Transit Systems
César Augusto Marín, Luis Miguel Escobar and Rubén Bolaños, Integra S.A., Colombia
John Willmer Escobar, University of Valle, Colombia

ID 222  Urban Distribution Center: Mathematical Model for the Location in the Center of the City of Fes
Maha Bennani, Fouad Jawab and Driss Amegouz, Laboratoire Productique Energie et Développement Durable (LPEDD) Fès, Morocco
Abderrahman Elhamedi and Yasmina Hani, Modélisation et Génie des Systèmes Industriels (MGSI) Montreuil, France

ID 224  The Organisation of Healthcare Transportation in Morocco: Description of the Current Situation
Berrak Fatimazahae and Fouad Jawab, Sidi Mohamed Ben Abdellah University, Morocco

11:30 – 1:00, FRIDAY  Energy and Resource Efficiency  Room B20
Session Chair: Manasi Vyankatesh Ghamande, Vishwakarma Institute of Technology, Pune, India

ID 097  Process Centric Energy Modelling for Multinational Manufacturing Corporations
M. Munsamy, Mangosuthu University of Technology, South Africa
A. Telukdarie, University of Johannesburg, South Africa

ID 107  Basic Considerations for Integration of Microgrid Systems
Oliver Nwauka, Armesh Telukdarie and Johan Enslin, University of Johannesburg, South Africa

ID 296  Effects of Operational Activities on World Energy Consumption: Data Envelopment Analysis Application
Oludolapo Akanni Olanrewaju, Durban University of Technology, South Africa

ID 353  A Proposed Combined Renewable Energy System for Train
Mohammad Azazur Rahman, Mohammad Woli Ullah, Muhammad Mostafa Amir Faisal, Saif Hannan, Abdullah Al Azha and Md Mohiuddin Soliman International Islamic University Chittagong, Bangladesh
Ahmed Alfi Monnat, Lulea University of Technology, Sweden

ID 489  Improving Self-cleaning System for De-fouling Thermal Power Plant Heat Exchangers: Case Study
Ignatio Madanhire and Isheanesu Zimba, University of Zimbabwe, Zimbabwe
Charles Mbohwa, University of Johannesburg, South Africa

11:30 – 1:00, FRIDAY  Operations Management and Operations Research  Room R03
Session Chair: Charles Sambil Mukwakungu, University of Johannesburg, South Africa

ID 198  An Engineering Perspective on the Design of Manufacturing Organisations
Rob Dekkers, University of Glasgow, Scotland

ID 219  The Impact of Location Decision on Small, Medium, and Micro-Enterprises (SMMES) Performance in Johannesburg
Eveth Nwobodo Anyadiegwu, Alice Lumbwe Kabamba and Charles Mbohwa, University of Johannesburg, South Africa
ID 252  Applications of the Vehicle Routing Problem to Personnel Transport in Morocco
Ilham Kissani, Abderrazak El Boukili and Rida El Boustani, School of Science and Engineering, Al Akhawayn University, Ifrane, Morocco

ID 299  Supply chain Model for Deteriorating Products with Advanced Preservation Policy
Muhammad Waqas Iqbal, Biswajit Sarkar, Mitali Sarkar, Rekha Guchhait and Suman Kalyan Sardar, Hanyang University, South Korea

ID 366  The Microfinance Institutions Rating According to the Performance of their Lending Process: An Intuitionistic Fuzzy TOPSIS Evaluation
Yousef Lamrani Alaoui and Tkiouat Mohamed, Mohamed V University of Rabat Mohammadia School of Engineering, Morocco

ID 562  An Alternative Model for DEA Cross Efficiency Evaluation with Flexible Measures
Santiago Amézquita, Lina Navas and Sepideh Abolghasem, Department of Industrial Engineering, University of los Andes, Bogota, Colombia
Mehdi Toloo, Department of Systems Engineering and Informatics, Technical University of Ostrava, Prague, Czech Republic

ID 207  Keep it Simple – Using the Ishikawa to Identify Key Factors Leading to Inefficiency and Ineffectiveness of Employees and Management an Observational Study at the Largest Public Care Facility in South Africa
Charles Sambil Mukwakungu, Eveth Nkeiruka Nwobodo-Anyadiegwu and Nonzwakazi Mntambo, University of Johannesburg, South Africa

11:30 – 1:00, FRIDAY  Lean and Six Sigma  Room R11
Session Chair: Raed El-Khalil, Lebanese American University, Lebanon

ID 173  Quality Improvement of Intermediate Shaft used in Steering Column through TQM: A Case Study
Ankesh Mittal and Pardeep Gupta, Sant Longowal Institute of Engineering & Technology, India

ID 359  Manufacturing Optimization -How Effective are Shop Floor Improvement Methods?
Patrick Pötters and Robert Schmitt, Quality Management at RWTH Aachen, Steinbachstrasse, Germany
Bert Leyendecker, University of Applied Sciences Koblenz, Germany

ID 437  Implementation of Kanban, a Lean tool, In Switchgear Manufacturing Industry – A Case Study
Shashwat Gawande and J.S. Karajgikar, Savitribai Phule Pune University, Pune, Maharashtra, India

ID 460  On the Relationship between Lean Supply Chain Management and Performance Improvement by Adopting Industry 4.0 technologies
Guilherme Luz Tortorella, Rogério Feroldi Mioreno and Carlos Emanzi Fries, Federal University of Santa Catarina, Brazil
Alejandro Mac Cawley Vergara, Pontifical Catholic University of Chile, Chile

ID 487  Productivity gains through PDCA approach in an Auto Service Station
Arvind Bhardwaj, Jitendra Nagar and Rahul S Mor, National Institute of Technology, India

ID 510  Classification, Purpose, Enablers of Lean Dimensions at Automotive manufacturing Industry: A Case Study
Raed El-Khalil, Adnan Kassar School of Business, Lebanese American University, Lebanon

11:30 – 1:00, FRIDAY  Business Management  Room R25
Session Chair: Mohammad Hassan Abolbashari, University of New South Wales, Canberra, Australia

ID 507  Relating Personality with Consumer Brand Switching: Moderating Role of Involvement and value of Service
Anjali Sharma and R.R.K. Sharma, Indian Institute of Technology-Kanpur, India

ID 110  Factorial Model Design for Business Process Variables
Medoh Chuks and Telukdarie Arnesh, University of Johannesburg, South Africa

ID 111  Decision-support for Business Process Optimization Modelling Framework Based on Industry 4.0 Enablement
Medoh Chuks and Telukdarie Arnesh, University of Johannesburg, South Africa

ID 124  The Influence of Leadership on Innovation: A Case Study in the Telecommunications Industry in South Africa
Pascalis Adams, Hannelie Nel and Annlize Marnewick, University of Johannesburg, South Africa

ID 282  An Investigation into the Causes of Continuous Resistance to the Implementation of a Centralised HR Support Services within a Global Mining House
Stella Zoë Mulombe, Regenesys Business School, RSA
Chipo Mugova, Mancosa Graduate School of Business, RSA

ID 346  The Relationship Between Internal Andexternal Integration of Supply Chain and Operational Performance
Yandra Rahadian Perdana, Wakhid Slamet Ciptono and Kusdhianto Setiawan, Universitas Gadjah Mada, Indonesia

Mohammad Hassan Abolbashari, Atefe Zakeri and Elizabeth Chang, University of New South Wales, Canberra, Australia

1:00 – 2:30 pm – FRIDAY Networking Lunch
## Session – FRIDAY (July 27): 2:30 – 4:00 pm

### Decision Analysis

**Room B15**

**ID 540**  
**Employing Multiple Criteria Decision Making to Evaluate HSE Performance of Contractors Case study: Lorestan Province Gas Company**  
Moslem Parsa and Somayeh Taheri, Lorestan Province Gas Company, Khorramabad, Iran  
Samira Taheri, Master of Business Administration, Arak Branch Islamic Azad University, Khorramabad, Iran

**ID 539**  
**A Framework to Assess a Knowledge-Based Economy: Special Focus to Higher Educational Institutions**  
Emad Summad1, Mahmood Al-Kindi1, Ahm Shamsuzzohha1,2, Sujan Piya1 and Mohammad K. Ibrahim3  
1Department of Mechanical and Industrial Engineering, Sultan Qaboos University, Muscat, Sultanate of Oman  
2Department of Production, University of Vaasa, Vaasa, Finland  
3Department of Information Science, Umm Al Qura University, Makkah, Saudi Arabia

**ID 541**  
**The Delphi Technique on Evaluation of Shopping Centre Classification Criteria in Malaysia**  
Ihfasuziella Ibrahim, Abdul Talib Bon, Abdul Hadi Nawawi and Edie Ezwan Mohd Safian, Faculty of Architecture, Planning and Surveying, UiTM, Shah Alam, Malaysia  
Faculty of Technology Management & Business, UTHM, Johor, Malaysia

**ID 537**  
**Comparison of training methods based on Merrill’s Principles and ELECTRE 1**  
Afaf Jghamou, Aziz Maziri, El Hassan Malili and Jamal Echaabi, Research Team ERAP, National Higher School of Electricity and Mechanics, Casablanca, Morocco

**ID 545**  
**Value-at-Risk Contribution under Asset Liability Models by Using Exponential Weighted Moving Average Approaches**  
Sukono, Eman Lesmana and Betty Subartini, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia  
Yuyun Hidayat, Department of Statistics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia  
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

**ID 546**  
**Comparison of Pension Fund Calculations Using Actuarial Methods of Projected Unit Credit and Pay-As-You-Go**  
Sukono, Mochamad Suyudi and Widya Novita Sari, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia  
Yuyun Hidayat, Department of Statistics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia  
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia

### Lean and Six Sigma

**Room B17**

**ID 029**  
**Implementation of Lean Manufacturing System to Eliminate Wastes on The Production Process of Line Assembling Electronic Car Components with WRM and VSM Method, [Case Study in Production Process of Daihatsu SIGRA Type 1.5 L 3NR-Ve, DOHC Dual VVT-I]**  
Muhammad and Yadrifil, Fakultas Teknik - Universitas Indonesia, Indonesia

**ID 155**  
**Lean Manufacturing Application in Textile Industry**  
Leandro L. Lorente Leyva, Edwin P. Curillo Perugachi, Ramiro V. Saraguro Piarpuezan, Carlos A. Machado Orges, Edwin P. Ortega Montenegro and G. Javier Burgos, Universidad Técnica del Norte, Ecuador

**ID 169**  
**An Intelligent Decision Support System for SMED and Its Application in Textile Industry**  
Onur Dogan, Ufuk Cebeci and M. Kursat Oksuz, Department of Industrial Engineering, Istanbul Technical University, Macka, Turkey

**ID 170**  
**Data Perspective of Lean Six Sigma in Industry 4.0 Era: A Guide to Improve Quality**  
Onur Dogan and Omer Faruk Gurcan, Department of Industrial Engineering, Istanbul Technical University, Macka, Turkey

**ID 440**  
**Moroccan Electronic Health Record System**  
Houssem BENBRAHIM, Hanaâ HACHIMI and Aouatif AMINE, BOSS-Team, Systems Engineering Laboratory, National School of Applied Sciences, Ibn Tofail University, Kenitra, Morocco

**ID 516**  
**From Lean Manufacturing to Lean Enterprise 4.0: Integration of theoretical foundations emerging with Grounded Theory Method**  
Eldon Caldwell, University of Costa Rica, Costa Rica

### Engineering Education

**Room B18**

**ID 157**  
**Jigsaw Cooperative Approach in Professional Studies: A Case of Top Technical Institute**  
Prabhas Bhardwaj, Anil Kumar Agrawal, Yogesh Velankar, Priya Singh4, Susheel Yadav, Suchit Pandey, Amit Kumar Yadav and Deepak Gautam, Indian Institute of Technology(BHU), India
### Logistics, Transport and Traffic Management

**Room B19**

**2:30 – 4:00, FRIDAY**

**Session Chair:** Thomas Tengen, Vaal University of Technology, South Africa

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<td>Yavuz Selim Özdemir and Gülşüm Bilgin, Istanbul Arel University, Turkey</td>
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<td>Johannes Mapokgole and Thomas Tengen, Vaal University of Technology, South Africa</td>
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### Energy and Resource Efficiency

**Room B20**

**2:30 – 4:00, FRIDAY**

**Session Chair:** A. Satif, National School of Applied Sciences (ENSA), Morocco

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<td>A. Satif and R. Elgouri, National School of Applied Sciences (ENSA), Morocco</td>
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### Operations Management and Operations Research

**Room R03**

**2:30 – 4:00, FRIDAY**

**Session Chair:** Mark A. Gammon, Defence R&D Canada - Atlantic Research Centre, Canada

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**July 26-27, 2018**

**Systems Dynamics**

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<td>Fransiscus R. Pratikto and Ratih Nindita, Parahyangan Catholic University, Indonesia</td>
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Universidad Popular Autónoma del Estado de Puebla  
Diana Sánchez-Partida, Universidad Popular Autónoma del Estado de Puebla, México |
| 493 | Modeling and Solving A Bi-Objective Single-Period Problem within Incremental Discount in Framework of Multi-Objective Problems Approach | Mahsa Najimi and Seyed Hamid Reza Pasandideh, Kharazmi University, Iran |

**Business Management**

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Mauricio Uriona, Federal University of Santa Catarina, Brazil |
| 418 | A System Dynamics Model of Energy Dependecy | Mahdi Bastan, University of Eynavekey, Gamsar, Iran  
Hamide Shakouri G., University of Tehran, Tehran, Iran |
| 453 | Modeling Infectious Disease in Healthcare Problems for the Medical Systems Improvement in Bangladesh | Mst. Shanta Khatun, Uzzwal Kumar Mallick and Md. Haider Ali Biswas, Khulna University, Bangladesh |
| 548 | A New Jerk Chaotic System with Three Nonlinearities and Its Circuit Implementation | Agus Supriatna, Kankan Parmikanti, Lita Novita, Sukono and Betty Subartini, Department of Mathematics, Faculty of Mathematics and Natural Sciences, Universitas Padjadjaran, Indonesia  
Abdul Talib Bon, Department of Production and Operations, University Tun Hussein Onn Malaysia, Malaysia |
| 500 | Forecasting Air Passenger Demand with System Dynamics under Terrorism Threat | Volkan Cakir, Istanbul Arel University, Turkey  
Salt Oguz, Hezafren Aeronautics and Space Technologies Institute, Turkey |

**Room R11**

2:30 – 4:00, FRIDAY

**Room R25**

2:30 – 4:00, FRIDAY

2:00 – 2:30 pm: Networking Break

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Session – FRIDAY (July 27): 4:30 – 6:30 pm

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Mariam Houti, Laila El Abbadi and Abdellah ABOUABDELLAH, Ibn Tofail University, Morocco

ID 214  The Integration of Lean Manufacturing Tools in the Industry 4.0  
Said El Manti, Laila El Abbadi and Nabil HMINA, Ibn Tofail University, Morocco

ID 228  Lean Six Sigma Application to Improve a Human Resources Process: A Case Study in a Commercial and Service Company in Mexico  
Luz María Valde de la Rosa, Daniela Garza Gutiérrez and Paulina Hoyos Benítez, Universidad de Monterrey, Mexico

ID 243  Evaluation of Lean Six Sigma Implementation at Healthcare Sectors: A Case Study of Two Tertiary Hospitals in Oman  
Yousuf Nasser Al Khamisi, M. Khurshid Khan and J. Eduardo Munive-Hernandez, University of Bradford, Bradford, UK

ID 410  Assembly Line Re-Balancing  
Lamia A. Shihata, Faculty of Engineering, Design and Production Engineering Department, Ain Shams University, Egypt  
Gasser Yassen, Industrial Engineering Research Group, German University in Cairo, Egypt

ID 571  Assessing the Corporate Obligation of Proactive Procurement of Business Services  
Syeda Asiya Zenab Kazmi, University of Vaasa, Finland

ID 417  Why Lean Six Sigma Implementation is still so Limited in Higher Education?  
Abdullah Al-Amri, University of Strathclyde, UK

4:30 – 6:30, FRIDAY Logistics, Transport and Traffic Management  
Room B19  
Session Chair: Jenny Díaz Ramírez, University of Monterrey, Mexico

ID 065  Development of a System for Reducing Traffic Congestion in South African Metropolitans  
Johannes Mapokgole and Thomas Tengen, Vaal University of Technology, South Africa

ID 069  Maximization of Profits in Import Activities through a Hybrid Algorithm based on Fictional Games with Multiple Suppliers  
Adriana Moros Daza, Carlos Paternina and Carlos Otero, Universidad del Norte, Barranquilla, Colombia

ID 099  Evaluation of the Electric Bicycle as an Alternative Mobility in the City of Cuenca, Ecuador  
Gustavo Alvarez, Mateo Coello, Andrés López and Santiago Ordoñez, Universidad del Azuay, Ecuador

ID 206  Patient Satisfaction Factors and Their Correspondence with Hospital Logistics Activities  
Youness Frichi, Fouad Jawab and Said Boutahari, Sidi Mohamed Ben Abdellah University, Morocco

ID 213  The Dynamic Simulation of the Urban Traffic: A Literature Review  
Imane Moufad and Fouad Jawab, Sidi Mohamed Ben Abdellah University - EST, Morocco

ID 217  The Extent of the Urban Freight Transport System on the Road Safety  
Nassima Laaraj, Imane Moufad and Fouad Jawab, Sidi Mohamed Ben Abdellah University - EST, Morocco

ID 070  Increase of Fuel Efficiency in a Passenger Road Transportation Company  
Jenny Díaz Ramirez, Laura Armendáriz Santinelli, María Fernanda Salcedo Junco and David Castaños Güitrón, University of Monterrey, Mexico

4:30 – 6:30, FRIDAY Energy and Resource Efficiency  
Room B20  
Session Chair: Balkrishna Narkhede, National Institute of Industrial Engineering, India

ID 013  Developing a Knowledge-Based Lean Six Sigma Model to Increase the Effectiveness of Healthcare Organisational Resources Management  
Yousuf Nasser Al Khamisi, J. Eduardo Munive-Hernandez and M. Khurshid Khan, University of Bradford, UK

ID 014  A New Perspective for Ranking under a DEA Cross-Evaluation Setting  
Amar Oukil, Sultan Qaboos University, Oman

ID 058  Hybrid Wind & Solar LED Streetlight  
Fayez Aldawi, Yanbu Industrial College, Saudi Arabia

ID 059  Energy Performance of Insulation Material in Houses and Buildings  
Fayez Aldawi, Yanbu Industrial College, Saudi Arabia

ID 101  Developing an Effective Maintenance Policy for Control Gates in Hydroelectric Power Plants  
M. Burak Aktel and Demet Ozgur-Unluakin, Bahcesehir University, Turkey

ID 527  A Study on Benefits and Barriers of Implementing Building Information Modelling (BIM) in Malaysian Construction Industry  
Mazri Yaakob, Jessie James, Mohd Nasrun Mohd Nawi and Kamaruddin Radzuan, Universiti Utara Malaysia, Malaysia
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**4:30 – 6:30, FRIDAY**

**Decision Sciences** Room R03

Session Chair: H.C.C. Ho, The Hong Kong Polytechnic University, China

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**4:30 – 6:30, FRIDAY**

**Sustainable Manufacturing** Room R11

Session Chair: Saida Kitouni, Constantine 3 University, Algeria

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4:30 – 6:30, FRIDAY     Waste Management     Room R25

Session Chair: Debadyuti Das, University of Delhi, India

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M. M. Manyuchi, C. Mbohwa and E. Muzenda, University of Johannesburg, South Africa

ID 161  Waste Reduction through Reallocation of Goods in Food Retail Companies
Larissa Janssen and Alfred Wulff, Jade University of Applied Sciences, Germany
Jürgen Sauer, Carl von Ossietzky University of Oldenburg, Germany

ID 286  Discharge Times of Ultrafine and Superfine Powders in a Short Riser Circulating Fluidized Bed at Different Humidification Conditions
Emad Abdelghani, El-Minia University, Egypt
Mohammed Hakami, Yanbu Industrial College, Saudi Arabia

ID 459  Life Cycle Assessment, Optimization and Multi Criterions DM Models Facing Waste Management Problems Literature Review
Elham Rezaee, Abbas Ahmadi and Kaveh Mohammad Cyrus, Amirkabir University of Technology (Tehran Polytechnic), Iran

ID 476  Biogas and Bio Solids Production from Tea Waste through Anaerobic Digestion
M. M. Manyuchi, C. Mbohwa and E. Muzenda, University of Johannesburg, South Africa

ID 188  Quantifying the Life Cycle Cost of a High Pressure Grinding Roll in a Mineral Processing Plant
Njabulo Buthelezi, Annlizé Marnewick and Hannelie Nel, University of Johannesburg, South Africa

ID 262  5S Implementation in Workplace - A Conducive Environment Enhancing Motivation in Educational Institutions
Ashok G. Verghese, K. Viswanathan and Pon Ramalingam, Hindustan Institute of Technology and Science Chennai, India

7:00 pm – 10:00 pm, FRIDAY, July 27, 2018

CONFERENCE AWARD DINNER
Renaissance Paris La Defense Hotel

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Friday, July 27, 2018

Session I: Industry Solutions
8:00 – 9:30 am (Friday) – Room B15
Session Chair: Dr. Eldon Caldwell, University of Costa Rica

8:00 – 8:25 (Friday)

Foad Hosseinkhanli
Director of Quality Assurance, Performance and Business Improvement
Amor Health Services, Inc.
Brownsville, Texas, USA

Certified Master Black Belt
Certified Scrum Master
Certified Quality Assurance Engineer

Risk assessment made easy in Health care industry by applying Lean Six Sigma Methodology

Mr. Hosseinkhanli is Director of Quality Assurance, Performance and Business Improvement at Amor Health Services, Inc. in Brownsville Texas USA. He was General Manager of Almana Trading in Doha Qatar Middle East and responsible for all aspects in creation and implementing of successful growth of new market development and turn- key operation for various products. Mr. Hosseinkhanli was involved with financial negotiation with national and international banking, corporation, private sources and trading organization. Volvo International Development Corporation, Gothenburg Sweden, Marketing Director For The Middle Eastern Countries, UAE, Saudi Arabia, Bahrain, Turkey and Iran. Negotiated and established exclusive franchise agreement and turn- key operation. He did market analysis and feasibility studies for Volvo International in the Middle Eastern countries and increase annual sales in excess of 55%. Chief Industrial Engineer, United Carr, manufacturer of plastic knobs for Automotive Industries, Knoxville Tennessee USA.

His education background is: Master of Business Administration from IMMEDE Management Institute in Lausanne Switzerland majoring in financing, Bachelor of Science in Industrial and System Engineering from University of Rhode Island in Kingston Rhode Island, USA. He is Certified Business Analyst from International Profit Association in Buffalo Grove IL USA. Certified Six Sigma Green and Black Belt from Institute of Industrial Engineers, Certified Master Black Belt, Certified Scrum Master and Certified Quality Assurance Engineer.

Extra Curriculum Activity: Senior Member of Institute of Industrial Engineers, Senior Member of ASQ and Senior Member of Swedish Method and Time Measurement Language: Fluent in English, Swedish, German, Turkish, Farsi and some Spanish.

8:25 – 8:50 (Friday)

Aaron Burciaga
Vice President Data Science & Machine Intelligence
Booz Allen Hamilton
Washington D.C., USA

When the Signal IS the Noise: Impending ubiquity and opportunity of sensors and machine intelligence on the edge

Aaron Burciaga is a data scientist and leader in Booz Allen’s defense business, focusing on the application of descriptive, predictive, and prescriptive forms of analysis to drive strategic decision making and millions of dollars in cost savings for his clients. In his more than 15 years of experience, Aaron has shaped commercial, federal, and Department of Defense strategies in data analytics, inventory management, requirements forecasting, maintenance planning, transportation networks, energy planning, organizational analytics maturity assessments, and much more.

Aaron is a sought-after speaker, sharing thought leadership and training at the crossroads of his technical interests: advanced analytics, machine intelligence, global logistics, and information management.

Prior to joining Booz Allen, Aaron worked at Accenture Digital - Advance Analytics as an analytics executive. Before turning his attentions to commercial and public sectors, Aaron was a Marine Corps officer and Iraq war veteran, and was the head operations research analyst and director of an operations analysis activity at the Pentagon, supporting the Marine Corps Headquarters. He is currently a Marine reservist, supporting the Chief Information Officer at Headquarters Marine Corps-Pentagon as the Big Data Analytics Architect.

Aaron graduated from the U.S. Naval Academy in 2003 and earned his M.S. in Operations Research from the Naval Postgraduate School in 2010. He is also a Certified Analytics Professional.
Engineering education is important in providing solutions to problems that face humankind. Zimbabwe has gone through a period of economic decline characterised by myriad of challenges, some of which requires engineering solutions. It is only when the quality of engineers from educational institutions is of high quality, that any such problems can be resolved. This paper presents the journey that the National University of Science and Technology (NUST), a Senior Lecturer, Researcher and an Engineering & Management Consultant, Member of the Institute of Directors Zimbabwe (IoDZ), Fellow and Board member of the Zimbabwe Institution of Engineers (ZIE).

His doctoral thesis was on topic Process Quality Improvement on Beltline Moulding Manufacturing. He studied Business Administration major in Quality Management at the master’s level in the Universiti Kebangsaan Malaysia for which he was awarded the MBA in the year 1998. He’s bachelor degree and diploma in Mechanical Engineering which his obtained from the Universiti Teknologi Malaysia. He received his postgraduate certificate in Mechatronics and Robotics from Carlisle, United Kingdom in 1997. He is Professor of Technology Management and Business at the National University of Science and Technology (NUST) in Zimbabwe took towards improving engineering education. A two year project sponsored by the Royal Academy of Engineering (RAE), UK, saw NUST as a hub institution in Sub-Saharan Africa working with several spoke institutions in both Industry and Academia. The project sought to develop and strengthen relationships between academia and industry through secondment programmes to bridge skills and knowledge deficiencies. This was achieved through secondment of junior lecturers to industry, as well as skilled industrial players to the NUST. Knowledge sharing and skills transfer was achieved during this project, ultimately leading to improved engineering education. Relevance of engineering programmes at the NUST was also reviewed and improvements implemented. This will result in sustainable engineering educational changes and industry ready engineers. Important networks were established and these are key to sustainability.
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- Le Laboratoire de Génie Industriel et de Production Mécanique (LGIPM), Université de Lorraine, METZ, Cedex, France
- Lille Economie Management (LEM), Lille, France
- Setubal Polytechnic Institute- Setubal School of Technology, Portugal
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- International Federation of Engineering Education Societies (IFEES)
- Society of Cost and Quality Engineers (SCQE)

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IEOM Student Chapters

IEOM Student Chapter can help students in the development or enhancement their outer important skills, including: leadership, communications, organization, planning, time management, budgeting and finance, and other professional skills. Those can help to prepare for their career and to be successful in longer term. If any student group of any educational institute is interested to form an IEOM Student Chapter, please submit chapter establishment form. Contact: info@ieomsociety.org.

Suggested Student Chapter Activities

- Workshops and Seminars
- Career Development
- Communication Development
- Network Development
- Poster and Paper Contest
- Poster and Paper Contest
- Fund Raising
- Membership Building
- Networking
- Career Development
- Leadership and Team Building Skills

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- Networking Opportunities
- Conferences and Seminars
- Career and Leadership Development

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Editor-in-Chief

Prof. Jose Arturo Garza-Reyes
Professor of Operations Management
Head of the Centre for Supply Chain Improvement
College of Business, Law and Social Sciences
The University of Derby, United Kingdom
Phone: +44(0)1332593281, Email: J.Reyes@derby.ac.uk
http://www.joseagarzareyes.com
8th IEOM International Conference (Bandung, Indonesia, March 6-8, 2018)

First IEOM Fellows Induction at the IEOM Bandung Conference on March 7, 2018
IEOM Paris Conference

IEOM Society Activities

July 26-27, 2018

1st South American IEOM Conference (Bogota, October 25-26, 2017)

1st UK IEOM Symposium (Bristol, July 24-25, 2017)

High School & Middle School STEM Poster Competition Photos, San Jose & Detroit 2017

IEOM 2016 Malaysia Conference Photos (March 8-10, 2016)
IEOM 2016 Detroit Conference Photos (September 23-25, 2016)

IEOM Women in Industry and Academia Forum
Website: http://ieomsociety.org/ieom/women-in-industry-and-academia/
IEOM Paris Conference  
IEOM Society Activities  
July 26-27, 2018

Awards: [www.ieomsociety.org/awards/](http://www.ieomsociety.org/awards/)

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Effat University, Jeddah, Saudi Arabia

Sudan University of Science and Technology

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University of New Brunswick at Fredericton, Canada

King Fahd University of Petroleum and Minerals (KFUPM), Dhahran, Saudi Arabia

IEOM in Costa Rica

Prof. Eldon Caldwell, Chairman of Industrial Engineering Dept., Univ. of Costa Rica

Faculty Advisor

Promoting IEOM Society at RobotiFEST UCR 2017
Guru Nanak Dev Engineering College, Ludhiana, Punjab, India

University of Johannesburg, South Africa

Government College University Faisalabad (GCUF), Pakistan
IEOM Student Chapter at Universiti Tun Hussein Onn Malaysia (UTHM)
Khulna University, Bangladesh

IEOM Student Chapter at Institut Teknologi Bandung (ITB)
IEOM Student Chapter at Bay Area (San Francisco & San Jose)

IEOM Washington DC Metro Area Chapter (Washington DC, Virginia and Maryland)

IEOM Michigan Chapter

IEOM Partner Events

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<th>Event</th>
<th>Date</th>
<th>Location</th>
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<tr>
<td>INFORMS Annual Meeting 2018</td>
<td>November 4 - 7, 2018</td>
<td>Phoenix, Arizona, USA</td>
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<tr>
<td>IFEES - WEEF-GEDC 2018</td>
<td>November 11 - 15, 2018</td>
<td>Albuquerque, New Mexico</td>
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IEOM Student Chapters around Globe

**Australia**
1. Queensland University of Technology (QUT), Brisbane

**Bangladesh**
2. Ahsanullah University of Science & Technology, Dhaka
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4. Jessore University of Science and Technology (JUST)
5. Khulna University
6. Khulna University of Engineering and Technology (KUET)

**Botswana**
7. University of Botswana

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8. University of New Brunswick at Fredericton
9. University of Windsor

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10. Fundación Univ. Tecn. Comfenalco, Cartagena, Bolívar
11. University of Rosario, Bogota
12. University of Quindio
13. Universidad de San Buenaventura, Cali, Valle

**Costa Rica**
14. University of Costa Rica

**Czech Republic**
15. University of West Bohemia, Pilsen

**Ecuador**
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**Egypt**
17. Zagazig University

**Finland**
18. University of Vaasa

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20. Lorraine University, Metz

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21. Technological Education Institute (TEI), Thessaly, Larissa

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22. College of Engineering Guindy (Anna University), Chennai
24. Pandit Dindayal Petroleum Univ., Ahmedabad, Gujarat
25. P.D.A. College of Engineering, Gulbarga, Karnataka, India
26. Vellore Institute of Technology
27. Vidya Jyothi Institute of Technology, Hyderabad

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28. Bina Nusantara University (Binus), Indonesia
29. Institut Teknologi Bandung
30. Institut Teknologi Sepuluh Nopember (ITS)
31. Sampoerna University, Jakarta
32. University of Indonesia
33. Universitas Sebelas Maret (UNS), Surakarta

**Iran**
34. University of Eeyvanekey

**Iraq**
35. Babylon University

**Italy**
36. University of Salento

**Japan**
37. Ashikaga University

**Kenya**
38. Kenyatta University, Nairobi

**Malaysia**
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40. Universiti Putra Malaysia (UPM)
41. Universiti Teknologi Malaysia (UTM)
42. Universiti Tun Hussein Onn Malaysia (UTHM)
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45. Ecole Mohammadia d’Ingénieurs (EMI)

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52. Mehran Univ. of Engineering and Tech, Jamshoro, Sindh

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**USA**
71. Central Connecticut State University
72. Eastern Michigan University
73. Lawrence Technological University, Michigan, USA

**Venezuela**
74. Catholic University Andrés Bello (UCAB), Caracas

**Zimbabwe**
75. University of Zimbabwe, Harare

**High School / Middle School Student Chapters**
76. Bay Area of San Francisco & San Jose, California, USA
Upcoming Conferences

3rd North American Conference on Industrial Engineering and Operations Management
Washington DC, USA, Sept. 27-29, 2018
Venue: University of the District of Columbia

www.ieomsociety.org/dc2018/

www.ieomsociety.org/southafrica2018/

9th IEOM International Conference
JW Marriott Hotel, Bangkok, Thailand, March 5-7, 2019
Conference Website: www.ieomsociety.org/ieom2019/

Organisers:
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3rd IEOM European Conference on Industrial Engineering and Operations Management
Pilsen, Czech Republic – July 2019
www.ieomsociety.org/pilsen2019/