

# IEOM

## International Conference on Operations Excellence and Service Engineering



**IEOM Society**

*"Achieving and Sustaining Operational Excellence"*

[www.ieom.org](http://www.ieom.org)

SEPTEMBER 10 – 11, 2015

Rosen Plaza Hotel **Orlando, Florida, USA**

[www.ieom.org/icmoe2015](http://www.ieom.org/icmoe2015)

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## Organizer





# Welcome to Orlando and the 2015 IEOM International Conference on Operations Excellence and Service Engineering

## To All Conference Attendees

The IEOM Society welcomes you to the **International Conference on Operations Excellence and Service Engineering** at the Rosen Plaza Hotel, Orlando, Florida, USA. The conference theme is “*Achieving and Sustaining Excellence in Quality, Service and Operations*”. This international event is a forum for academics, researchers and practitioners to exchange ideas and recent contributions to the field of industrial engineering, service engineering, manufacturing engineering, systems engineering, operations research, engineering management, operations management and operations excellence. The aim of the conference is to share and advance theory and practice by fostering networking, collaboration and joint effort among the participants. After a thorough peer review process, about 170 papers/abstracts have been accepted from more than 40 countries. The proceeding includes many cutting edge topics in the fields.

The challenge of continuous improvement will be significant in the 21<sup>st</sup> century. This conference will address how to effectively sustain continuous improvement for quality and service. The IEOM Society has invited five outstanding keynote speakers to address the challenges and issues in operations excellence and service engineering:

- Dr. Pamela McCauley, Professor & Director of the Ergonomics Laboratory, University of Central Florida, USA
- Thomas Seubert, North American Delivery Lead for Manufacturing Execution Systems, Tata Technologies
- Alastair Orchard, Director Digital Enterprise Projects, Siemens PLM Software, Genoa, Italy
- Dr. Miguel Gastón Cedillo-Campos, Senior Researcher, Mexican Institute of Transportation and Founding President, Mexican Logistics and Supply Chain Association (AML), Mexico
- Professor Uriel R. Cukierman, Professor, Universidad Tecnológica Nacional, Argentina and President, International Federation of Engineering Education Societies (IFEES)

As a result of the great success of the Global Engineering Education Series at IEOM Dubai and Bali, 2015 IEOM Orlando Conference have designated 24 engineering educators who will speak on the readiness level of the engineering graduates around the world for the workforce. A special focus will be given on *Engineering Education in the Americas*.

The IEOM Industry Solutions sessions will address the challenges and issues in real world applications. Industrial case studies will be presented to showcase continuous improvement through Industrial Engineering (IE) and Operations Management (OM) tools and techniques. IEOM undergraduate student paper competition is sponsored by Siemens and IEOM graduate student paper competition is sponsored by Eaton. Three workshops are organized: “*Workshop on Outcome-Based Education (OBE)*”, “*Entrepreneurial Mindset: Opportunity Recognition and the Value Proposition*” and “*Workshop on Geometric Dimensioning and Tolerancing (GD&T)*”.

The IEOM Society deeply appreciates the support and participation of our sponsors, keynote speakers, authors, reviewers, and the many volunteers who have given so much of their time and talent to making the IEOM Orlando conference a success.

We would like to acknowledge and thank the students who are participating in this event. Their participation provides an added value to all attendees. The Conference Planning Committee welcomes you to Orlando and wishes you an enjoyable learning experience, a fun adventure and safe exploring the many attractions in the USA.

Enjoy the conference, Orlando and your visit to the USA!



Mohammad Anwar Rahman  
Conference Chair  
Central Connecticut State University, USA



Ahad Ali - Conference Co-Chair  
Lawrence Technological University  
Michigan, USA



Don Reimer  
Director of Membership - IEOM Society  
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**“Achieving and Sustaining Operational Excellence”**

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**International Conference on  
Operations Excellence and Service Engineering**  
Orlando, Florida, USA  
September 10-11, 2015

**Venue: Rosen Plaza Hotel, International Drive, Orlando, FL**

**CONFERENCE PROGRAM**

**September 9, 2015 (Wednesday)**

15:00 – 21:00 Registration

**September 10, 2015 (Thursday)**

07:00 – 17:00 Registration

08:00 – 09:15 Parallel Sessions

09:30 – 10:00 Welcome Address

10:00 – 11:00 *Opening Keynote:* **Dr. Pamela McCauley**, Professor, Department of Industrial Engineering and Management Systems and Director, Human Factors in Disaster Management Research Team, University of Central Florida, USA

11:00 – 11:30 Networking Break

11:30 – 12:45 Parallel Sessions

13:00 – 14:00 *Lunch Keynote:* **Thomas Seubert**, North American Delivery Lead for Manufacturing Execution Systems, Tata Technologies, Novi, Michigan, USA

14:00 – 14:30 Networking Break

14:30 – 15:45 Parallel Sessions

15:45 – 16:00 Break

16:00 – 17:15 Parallel Sessions

**September 11, 2015 (Friday)**

07:00 – 17:00 Registration

08:00 – 09:30 Parallel Sessions

10:00 – 11:00 *Morning Keynote:* **Alastair Orchard**, Director Digital Enterprise Projects, Siemens PLM Software, Genoa, Italy

11:00 – 11:30 Networking Break

11:30 – 12:45 Parallel Sessions

13:00 – 14:30 Lunch Keynote

13:00 – 13:45 *KEYNOTE:* **Dr. Miguel Gastón Cedillo-Campos**, Professor in Logistics Systems Dynamics, Senior Researcher, Mexican Institute of Transportation and Founding President, Mexican Logistics and Supply Chain Association (AML)

13:45 – 14:30 *KEYNOTE:* **Uriel R. Cukierman**, Professor/Researcher, Facultad Regional Buenos Aires, Universidad Tecnológica Nacional, Buenos Aires, Argentina and President, International Federation of Engineering Education Societies (IFEES)

14:30 – 15:30: **Awards and Recognitions**

15:30 – 16:45 Parallel Sessions

16:45 – 17:00 Break

17:00 – 18:15 Parallel Sessions

## Program Matrix

### Thursday, September 10, 2015

Time	Salon 5	Salon 6	Salon 7	Salon 8	Salon 9	Salon 10
08:00	Global Engineering Education I	Operations Research	Undergraduate Student Paper Competition	Operations Management	Lean and Six Sigma	Supply Chain Management
09:30	Welcome Address: Ballroom C					
10:00	Opening Keynote: <b>Dr. Pamela McCauley</b> , Professor, Department of Industrial Engineering and Management Systems and Director, Human Factors in Disaster Management Research Team, University of Central Florida, USA (Ballroom C)					
11:00	Networking Break					
11:30	Global Engineering Education II	Industry Solutions I	Undergraduate Student Paper Competition	Engineering Education	Lean and Six Sigma	Supply Chain Management
13:00	Thursday Lunch Keynote: <b>Thomas Seubert</b> , North American Delivery Lead for Manufacturing Execution Systems, Tata Technologies, Novi, Michigan, USA – Ballroom C (Lunches Provided)					
14:00	Networking Break					
14:30	Global Engineering Education III	Industry Solutions II	Undergraduate Research Competition	Engineering Education	Quality and Reliability	Supply Chain and Logistics
15:45	Break					
16:00	Global Engineering Education IV	Industry Solutions III	Graduate Student Paper Competition	GD&T Workshop 4:00 – 7:00 pm	Human Factors and Ergonomics	Operations Research

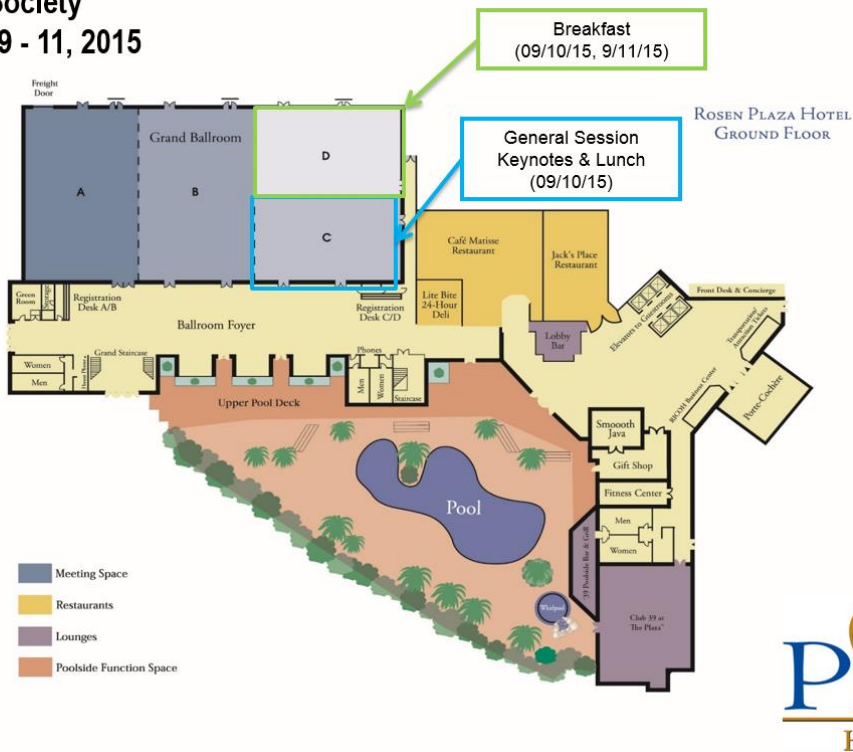
### Friday, September 11, 2014

Time	Salon 4	Salon 3	Salon 9	Salon 10	Salon 11	Salon 12
08:00	Global Engineering Education V	Transportation	Graduate Student Paper Competition	Entrepreneurship and Innovation	Healthcare Operations and Services	Manufacturing and Design
10:00	Friday Morning Keynote (SALON 5-6-7) <b>Alastair Orchard</b> , Director Digital Enterprise Projects, Siemens PLM Software, Genoa, Italy					
11:00	Networking Break					
11:30	GEE VI: Outcome-Based Education (OBE) Workshop	Sustainability	Automation and Control	Energy	Healthcare Operations and Services	Manufacturing and Design
13:00	Lunch Keynote: SALON 5-6-7 (Lunches Provided) 13:00 – 13:45 KEYNOTE: <b>Dr. Miguel Gastón Cedillo-Campos</b> , Professor in Logistics Systems Dynamics, Senior Researcher, Mexican Institute of Transportation and Founding President, Mexican Logistics and Supply Chain Association (AML) 13:45 – 14:30 KEYNOTE: <b>Uriel R. Cukierman</b> , Professor/Researcher, Facultad Regional Buenos Aires, Universidad Tecnológica Nacional, Buenos Aires, Argentina and President, International Federation of Engineering Education Societies					
14:30	Awards and Recognitions - SALON 5-6-7					

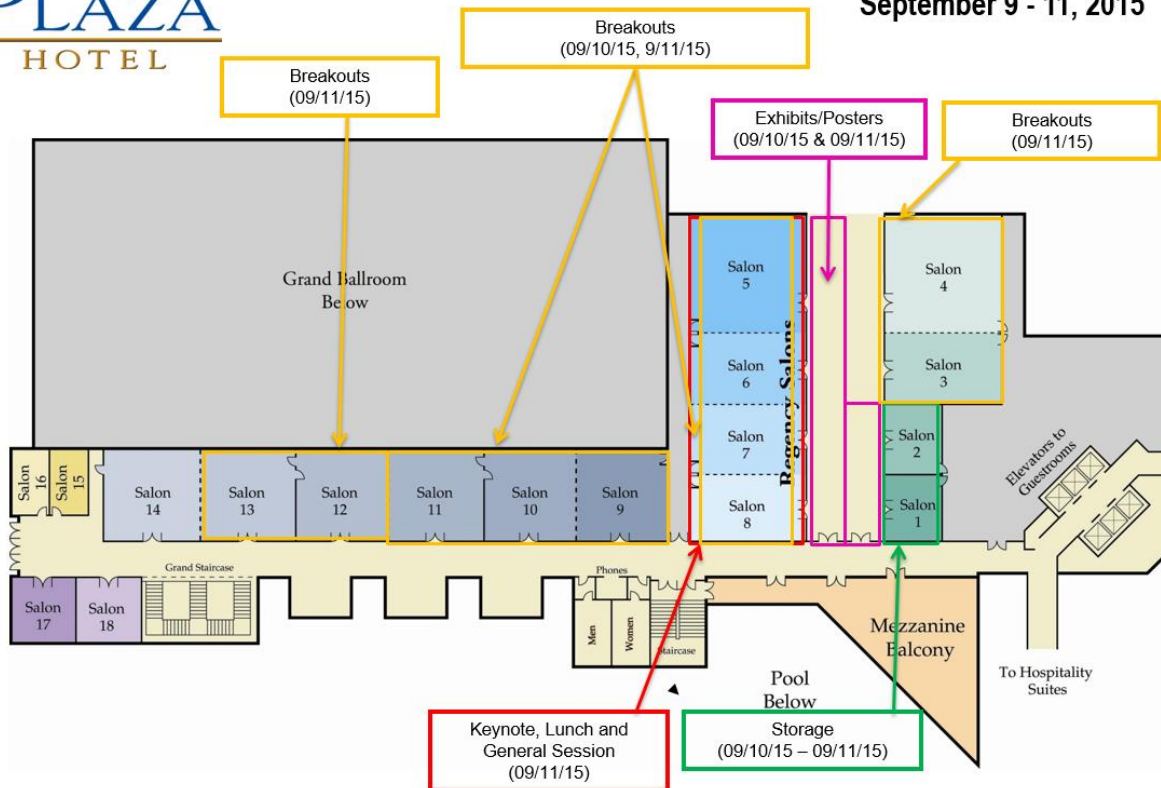
### Friday, September 11, 2014

Time	Salon 4	Salon 5	Salon 3	Salon 9	Salon 10	Salon 11	Salon 12
15:30	Global Engineering Education VII	Entrepreneurship Workshop: Opportunity Recognition and Value Proposition 4:00 – 7:00 pm	Systems Engineering and Technology Management	e-Business and e-Services	Energy	Modeling and Simulation	Manufacturing and Design
16:45	Break		Break				
17:00	Global Engineering Education VIII		Product and Processes	Project Management	Construction Management	Modeling and Simulation	Case Studies

**IEOM Society  
September 9 - 11, 2015**



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September 9 - 11, 2015**





## KEYNOTE SPEAKERS

Opening Keynote (September 10, 2015): 10:00 – 11:00 am



### **Dr. Pamela McCauley**

Professor, Department of Industrial Engineering and Management Systems  
Director, Human Factors in Disaster Management Research  
University of Central Florida  
Orlando, Florida, USA

**Dr. Pamela McCauley** is an ergonomics and biomechanics expert, a popular keynote speaker, and a professor in the Department of Industrial Engineering and Management Systems at the University of Central Florida where she leads the Human Factors in Disaster Management Research Team and serves as Director of the Ergonomics Laboratory. She previously held the position of Martin Luther King, Jr. Visiting Associate Professor of Aeronautics and Astronautics at the Massachusetts Institute of Technology.

She is the author of over 80 technical papers, book chapters, conference proceedings and the internationally acclaimed ergonomics textbook, *Ergonomics: Foundational Principles, Applications and Technologies*. Many of her leadership, diversity, innovation and STEM education related keynote talks draw from her research-based book *Transforming Your STEM Career through Leadership and Innovation: Inspiration and Strategies for Women* as well as her personal story; *Winners Don't Quit . . . Today They Call Me Doctor*.

Dr. McCauley has received numerous awards in recognition of her professional accomplishments including the prestigious 2015 Black Engineer of the Year Educational Leadership Award and a 2012 Fulbright Specialist Scholar award. Most recently, she was awarded a Jefferson Science Fellowship with the US State Department. The Jefferson Science Fellowship program serves as an innovative model for engaging the American academic science and engineering communities in U.S. foreign policy.

Dr. McCauley's research focus includes the ergonomics of disaster management, the development of artificial intelligence models using fuzzy set theory, and the critical global ergonomics of treating Ebola and other infectious diseases.

Thursday Lunch Keynote (September 10, 2015): 1:00 – 2:00 pm



### **Thomas Seubert**

North American Delivery Lead for Manufacturing Execution Systems (MES)  
Tata Technologies  
Novi, Michigan, USA

### **Upcoming Manufacturing Execution Systems (MES) Trends**

Thomas Seubert is currently the North American Delivery Lead for Manufacturing Execution Systems for Tata Technologies, which connects the manufacturing plant floor with IT systems for better manufacturing support efficiencies. He has over 20 years' experience in Manufacturing plant floor systems, starting as a Controls engineer to IT Systems and Controls/IT Integration and then manufacturing business processes. Mr. Seubert has expertise in Allen Bradley Programmable Logic Controllers, including ControlLogix, PLC-5, and SLC-500 and HMI solutions. These include RSLogix 5000, 500, 5; RSLinx, RSView (SE & ME), Factory Talk Transaction Manager, Cimplicity, iFix, and Wonderware and also able to use VFDs and all types of Input/Output devices. He has expertise in electrical, hydraulic, and pneumatic hardware systems.

Mr. Seubert has also expertise in GM Assembly and Stamping Plant operations through all of GMs Manufacturing Execution Systems. Consulted with Pontiac Stamping, Grand Rapids Stamping, Detroit Hamtramck Assembly, Lansing Grand Rapids Assembly, Orion Assembly, Fort Wayne Assembly, Shreveport Assembly, Janesville Assembly, and with Ruesselsheim, Germany Assembly and Zaragosa, Spain Assembly. Familiar with GM Standards CCH-1 and CCS-2. He has experiences with the Daimler Chrysler system Factory Information System. Worked with Windsor Assembly and Toledo North Assembly Plants. Mr. Seubert authored a Language and Cultural Training White Paper dealing with the limitations of the training.

His specialties are in manufacturing, VB.Net, business processes, Cimplicity, engineering, German, hardware design, MES, networking, Wireless, PLC, project management, requirements analysis, SCADA, servers, software architecture, SQL, system documentation, systems integration, training development and delivery, troubleshooting, validation, and Wonderware.

Mr. Seubert received Bachelor of Science in Electrical Engineering from Lawrence Technological University and Post Graduate Studies in Engineering from Wayne State University.

**Friday Morning Keynote (September 11, 2015): 10:00 – 11:00 am**



**Alastair Orchard**

Director Digital Enterprise Projects  
Siemens PLM Software  
Genoa, Italy

*"The Role of Manufacturing Engineering in the Digital Enterprise"*

Throughout 20 years of experience first as a manufacturer and then with Siemens, Alastair has focused on the gains in operational efficiency delivered by advanced control, then MES and now

Industry 4.0.

Siemens has been at the industrial forefront of each wave of social advancement. In 2007, conscious of the impact that software would have on manufacturing, Siemens acquired UGS and added Product Lifecycle Management to our Industrial Software portfolio. In combination with Manufacturing Operations Management, Intelligent Automation and Big-Data capabilities, Siemens uses the Teamcenter Collaboration Platform to bring the virtual world of product design and the real world of manufacturing operations execution into a seamless integrated Digital Enterprise Software Suite.

Alastair currently runs the Digital Enterprise Project, helping customers take advantage of the synergies possible between ideation and realization and lead the manufacturing renaissance. He works with multinationals like Ford, Chrysler, Rolls Royce, Airbus, Cargill, Kraft, Monsanto, Unilever, P&G, and Siemens' own 300 manufacturing facilities to become more flexible, cost effective, transparent, collaborative organizations, and to bring their world-class products to market faster than their competitors. Mr. Orchard is an engineering graduate of Loughborough University, UK.

**Wednesday Lunch Keynote (September 11, 2015): 1:00 - 1:45 pm**



**Dr. Miguel Gastón Cedillo-Campos**

Professor in Logistics Systems Dynamics  
Senior Researcher, Mexican Institute of Transportation  
Founding President, **Mexican Logistics and Supply Chain Association (AML)**  
Mexico

**Dr. Gastón Cedillo** is a Professor in Logistics Systems Dynamics and Founding Chairman of the Mexican Logistics and Supply Chain Association (AML). Dr. Cedillo is National Researcher Level 1 (National Council of Science and Technology), Innovation Award 2012 (UANL-FIME) and National Logistics Award 2012. In 2004, he received a Ph.D. in Logistics Systems Dynamics from the University of Paris, France. Recently, he was collaborating as Visiting Researcher at MIT-Zaragoza Logistics Center. He works in logistics systems analysis and modeling, risk analysis, and supply chain management,

which are the subjects he teaches and researches in different prestigious universities in Mexico and abroad. Dr. Cedillo is the Scientific Chairman of the International Congress on Logistics and Supply Chain (CiLOG) organized by the Mexican Institute of Transportation (IMT) in partnership with the Mexican Logistics and Supply Chain Association (AML).

Professor Cedillo-Campos has consulted widely for government agencies and leading manufacturing, retail and transportation enterprises all over Latin America. He is also an active entrepreneur, having founded and co-founded three successful technology based organizations:

- Supply Chain and Development Research Center (CiDeCS) at Tecnológico de Monterrey, Campus Guadalajara;
- Mexican Logistics & Supply Chain Association (AML);
- YoLogistico.COM

He is the author of several scientific publications in top journals as Transportation Research Part E: Logistics and Transportation Review, Computers and Industrial Engineering, Computers in Industry and two books:

- Dynamic Analysis of Industrial Systems (Trillas, 2008).
- Supply Chain Clustering: The new logistics frontier (AML, 2015).

Dr. Cedillo is a regular speaker at industrial engineering and logistics conferences and has also been an invited speaker on issues in supply chain in USA, Panama, Colombia, France and Spain. Currently, he participates extensively in logistics executive education at Mexican Logistics and Supply Chain Association as well as several other recognized institutions. At the same time,

he is leading the National Center for Innovation in Intermodal Transportation and Logistics of Mexico. A National Center for Excellence integrated by the nine leading supply chain research labs in Mexico.

### Friday Lunch Keynote, September 11, 1:45 – 2:30 pm



#### **Uriel R. Cukierman**

Professor/Researcher

Facultad Regional Buenos Aires

Universidad Tecnológica Nacional

Buenos Aires, Argentina

and

**President, International Federation of Engineering Education Societies (IFEES)**

Uriel Rubén Cukierman received a professional degree in Electronic Engineering from the Universidad Tecnológica Nacional (UTN), Argentina, and a master's degree in Enterprise Information Systems Management from the Universidad Politécnica de Madrid (UPM), Spain. He is presently working on his PhD thesis in the area of Learning Sciences at the

Universidad de Buenos Aires (UBA), Argentina.

Presently professor and researcher at UTN, he has served as the Dean of Engineering at the Universidad de Palermo (UP) and, previously, as the Information & Communications Technologies Secretary (equivalent to a VP position) at UTN, the largest Engineering School in Argentina, for more than 15 years. Two years ago, he co-chaired and hosted the World Engineering Education Forum (WEEF) 2012, the largest ever engineering education conference, coordinating with eight different global organizations, several government agencies and corporate sponsors. Not only was it a huge success for students and faculty, but for the conference committee, as they were able to break even financially.

Former Director of the Learning Technologies Bachelor at UTN. Electronic Department founder and former Director at Technical School ORT Argentina. Research interests in Learning Technologies include the areas of mobile devices, learning management systems and the digital divide. Professor Cukierman has contributed to the National Universities Network as a member of its Administrating Committee and has worked as consultant for the National Communication Secretary and National Education Ministry in projects for distance learning and reducing the digital divide. Taught at the university level for over thirty years in electronics, computing, multimedia and learning technologies. He has served as a lecturer in seminars, courses and other specialized activities throughout Argentina and around the world. Wrote and published several original technical documents in different newspapers, journals and magazines in Argentina and in other countries. Produced three books about Learning Technologies and Engineering Education, one of which was published by Pearson. Authored five book chapters and more than 40 technical papers in refereed journals and conferences.

Other positions: IFEES President (2014-2016); IFEES Executive Committee Member (2013-2015); GEDC Executive Committee Member (2013-2016); LA Horizon Report (NMC) Advisory Board Member (2013); STEM Horizon Report Advisory Board Member (2012-2013); Member of the Learning Technologies Program Board at UTN; Member of the Asociación para el desarrollo de la Tecnología Educativa y de las Nuevas Tecnologías aplicadas a la educación (EDUTEC) – Spain; Member of the Technical Committee at the Latin American and Caribbean Collaborative ICT Research Federation (LACCIR Virtual Institute); Member of the iNEER (International Network for Engineering Education & Research) Leadership Council (2006/2008); Coordinator at the Red Universitaria de Educación a Distancia (RUEDA) – Argentina (2009/2011); Secretary of the Executive Committee at Red de Interconexión Universitaria (RIU) – Argentina (2005/2009); Former Chairman of the Microsoft Research Latin American Advisory Board (2003/1007).

### **IEOM Supply Chain Management Technical Group Established**

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*Dr. Ali Turkyilmaz*, Dept. of Industrial Engineering, Fatih University, Turkey

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*Prof. Prem Kumar*, EX V.C, AIMST University, Malaysia

*Dr. Ravi Kant*, Department of Mechanical Engineering, S.V.N.I.T, Surat, India

*Dr. Nitty Hirawaty Binti Kamarulzaman*, Dept. of Agribusiness and Information Systems, Univ. Putra Malaysia





INTERNATIONAL FEDERATION OF  
ENGINEERING EDUCATION SOCIETIES

### **The International Federation of Engineering Education Societies (IFEES)**

IFEES was founded in 2006, at the American Society for Engineering Education's Global Conference in Rio de Janeiro, Brazil. Engineering education leaders from around the world had gathered the previous year to explore to possibilities of creating an international organization for engineering education societies. IFEES is proud to be leading the effort in connecting the world's engineering education societies and leveraging our members' collective strengths in order to improve engineering education worldwide. IFEES members represent a diversity not only in cultures, but in engineering education interests, from quality assurance to engineering education, from pedagogy to the role of technology in the classroom. IFEES member societies are expanding their global reach, and new relationships and collaborations are created all the time through IFEES' global network.

Through the collaboration of its member societies, IFEES will work to establish effective engineering education processes of high quality around the world to assure a global supply of well-prepared engineering graduates. IFEES will strengthen member organizations and their capacity to support faculty and students. It will attract corporate participation, helping to connect engineering graduates with international corporations that have a pressing need for well-trained engineers who can work in a global environment. IFEES will also enhance the ability of engineering faculty, students and practitioners to understand the varied cultures of the world and work effectively in them.



### **Global Engineering Deans Council (GEDC)**

Recognizing the global need for a world-wide forum of engineering deans and rectors, a group of over 20 leaders of engineering education institutions and corporate partners first met in Rio de Janeiro, Brazil, on 9 October 2006 and in Istanbul, Turkey, on 30 September 2007. Encouraged by IFEES and modeled after the ASEE Engineering Deans Council (EDC), the Global Engineering Deans Council (GEDC) was created on 9 May 2008 in Paris, France. The main goal of the GEDC is to provide engineering deans and rectors with ideas, tools, and

"best" practices necessary to become innovative leaders of engineering education

The GEDC holds annual meetings surrounding four strategic objectives: Institutional Leadership, Curriculum Leadership, Policy Leadership and Accreditation Leadership. Accommodating for its diverse membership, the GEDC has met in Argentina, Brazil, Turkey, France, United Arab Emirates, and will meet in Italy and Australia in 2015.

*Represented by Dr. Hans J Hoyer (Secretary General, IFEES and Executive Secretary, GEDC)*



[www.aeeonline.org](http://www.aeeonline.org)

### **AFRICAN ENGINEERING EDUCATION ASSOCIATION (AEEA)**

The African Engineering Education Association (AEEA) was established at University of Pretoria, South Africa in 2006 after the 3<sup>rd</sup> African Regional Conference on Engineering Education. The Association was registered in Nigeria in 2012. AEEA is a member of the International Federation of Engineering Education Societies (IFEES). It also has relationship with other national, regional and international organizations. The members of AEEA are from the five sub-regions (North, Southern, West, East and Central) of Africa.

Some of the objectives of the AEEA are to:

- Promote excellent quality engineering education in Africa and bridge the North-South divide
- Provide network opportunities of engineering educators through Regional Conference on Engineering Education
- Improve teaching and learning in educational institutions, through workshops for engineering educators.
- Enhance the development of next generation engineering educators with regional Postgraduate Training Centres
- Promote exchange of students across the continent through removal of international fee barriers.
- Promote technological careers for women, so as to increase the proportion of women in the engineering workforce.
- Collaborate with international organizations to promote research & development in engineering education in Africa.

#### **AEEA's Activities**

1<sup>st</sup> and 2<sup>nd</sup> African Regional Conference on Engineering Education (ARCEE) in 2002 & 2004 at the University of Lagos, Nigeria

3<sup>rd</sup> ARCEE in 2006 at Univ. of Pretoria, South Africa

4<sup>th</sup> ARCEE in 2008 at Dar es Salaam, Tanzania

In 2008, AEEA co-hosted the 7<sup>th</sup> American Society of Engineering Education (ASEE) Global Colloquium on Engineering Education and 2<sup>nd</sup> Summit of the International Federation of Engineering Education Societies (IFEES) at Univ. of Cape Town, South Africa

China-AEEA Capacity Building Workshop was held in Tsinghua University, Beijing, China for AEEA members from the five African sub-regions in 2009.

5<sup>th</sup> ARCEE 2013 and Inauguration of the African Engineering Deans' Council (AEDC) at the University of Lagos, Nigeria.

The 6<sup>th</sup> African Regional Conference on engineering education has been scheduled in South Africa in 2016.

**Prof. Funso Falade, President, AEEA**

# IEOM Global Engineering Education

## **Readiness and Competence of Engineering Graduates**

### ENGINEERING EDUCATION IN AMERICAS

IEOM Society addresses the issues of Global Engineering Education. There are different levels of readiness of engineering graduates from various parts of the world. One of the main themes of this series is how to reduce the readiness gap around the world. The special focus is given to Industrial Engineering, Service Engineering, Manufacturing Engineering, Systems Engineering, Operations Research, Engineering Management and Technology Management. Are the engineering graduates ready to take on the challenges of the current global economy? With the great success of Global Engineering Education Series of last IEOM conferences, 2015 IEOM Orlando Conference will have a dedicated session for the Global Engineering Education where distinguished speakers will discuss the readiness of engineering graduates for workforce around the world. A special focus will be given for the [Engineering Education in Americas](#).

### DISTINGUISHED SPEAKERS

**September 10, 2015 (Thursday)**

**08:00 – 09:15 Global Engineering Education I (Thursday) - Salon 5**

Session Chair: Dr. Laura M. Stanley, Montana State University

**8:00 – 8:25 am**



**Laura M. Stanley, PhD, CPE**

Associate Professor

Mechanical & Industrial Engineering Department

Montana State University

Bozeman, MT, USA

***Addressing the Need for Effective Communications across  
the Engineering Curricula – A Case Study***

**Abstract:** The development of written and oral communication skills is of growing importance for undergraduate engineers of all disciplines. These are skills that cannot be learned in a single technical writing course; rather they must be reinforced throughout an entire curriculum. One engineering department at Montana State University has proposed the Engineering Communications Toolkit to aid in the development of

communications skills among its students. This Toolkit was distributed to freshman through senior-level students in four different courses. Following a semester of use, students and faculty member were asked to assess the Toolkit's effectiveness. Overall, the Toolkit was well received as a communications resource. Both students and faculty indicated that they would use the resource in future courses. With continued support, the Toolkit is to be integrated throughout the school's engineering curricula to help produce graduates who are better communicators and, thus, more competitive in the workforce.

**Bio:** Dr. Laura Stanley is an Associate Professor in the Mechanical & Industrial Engineering Department at Montana State University and a Research Scientist at the Western Transportation Institute, where she is the Director of the Human Factors Driving Laboratory. Dr. Stanley has a B.S. in Industrial & Systems Engineering from Virginia Tech, M.S. and PhD in Industrial Engineering from Montana State University. Dr. Laura Stanley was recently selected as Program Director in the Directorate for Computer & Information Science & Engineering (CISE) at the National Science Foundation. Dr. Stanley will begin her NSF service beginning fall of 2015.

Dr. Stanley's research interests include Human Factors, Transportation Safety, Learning in Virtual Environments, Human Computer Interaction, and Engineering Education. Her projects while at MSU have included the validation of virtual reality environments, human computer interaction applications, naturalistic driving evaluations in the emergency medicine service environment, improving novice and older driver safety, and the evaluation of the safety benefits of driver based public health interventions. She has collaborated with several outside partners, some of which include: the National Science Foundation, National Highway Traffic Safety Administrations, Montana Department of Transportation, Bozeman Deaconess Hospital, Montana's Office of Public Instruction, Virginia Tech Industrial & Systems Engineering Department, Engineering Information Foundation, Murdock Charitable Trust Foundation, Critical Illness & Trauma Foundation, American Medical Response, and the Texas

Transportation Institute. Furthermore, Dr. Stanley has conducted research on engineering education, specifically how to better integrate service learning applications and communication needs of our nation's future engineers.

Dr. Stanley currently serves as Associate Editor for IEEE Transactions on Human-Machine Systems and serves on the scientific review committees for the Journal of the American Academy of Pediatrics, Accident Analysis & Prevention Journal, Journal of the Human Factors & Ergonomics Society, and Transportation Research Board.

Dr. Stanley is a strong proponent for the undergraduate research experience, as such she has advised several undergraduates in research projects through formal programs such as the McNair Scholars Program, the National Science Foundation Research Experience for Undergraduates program, the United States Department of Transportation's Undergraduate Research Experience, MSU's Undergraduate Scholars Program, MSU University Honors Program, Montana Native American Apprenticeship Program, and for independent study credit. Additionally, Dr. Stanley believes in supporting a diverse workforce through the advancement of women and minorities in engineering. She currently serves as one of MSU's NSF Equity Advocates and participates in local outreach programs for girls in math and science programs.

8:25 -8:50 am



## **Nadia Bhuiyan, Ph.D., Eng., Professor**

Department of Mechanical and Industrial Engineering  
Associate Director, Concordia Institute of Aerospace Design and Innovation (CIADI)  
Concordia University  
Montreal, Quebec, Canada

**Bio:** Dr. Nadia Bhuiyan is Professor at the Department of Mechanical and Industrial Engineering, Concordia University, Montreal, Quebec, Canada. He is an Associate Director, Concordia Institute of Aerospace Design and Innovation (CIADI). Dr. Bhuiyan received her B.Eng. in Industrial Engineering at Concordia University, and her M.A. Sc. and Ph.D. both at McGill University in Mechanical Engineering. She was an Assistant Professor at Queen's School of Business and a lecturer at McGill University in Management Science. She became the Associate Director of CIADI in 2003. Dr. Bhuiyan has a number of industrial collaborations with aerospace companies such as Pratt & Whitney Canada, Bombardier Aerospace, Bell Helicopter, and CMC Electronics, and is involved in several CRIAQ (Consortium for Research and Innovation in Aerospace in Quebec) projects, most recently in Lean Engineering. She works closely with the aerospace industry in Montreal to research and develop tools and techniques in lean and to study their application across the enterprise. Dr. Bhuiyan's research interests focus on product development processes, dealing with the design, development, production, and distribution of goods and services, with a focus on emerging tools and techniques for integrating design and manufacturing to improve process performance. She is currently conducting research on the application of lean manufacturing principles in product development.

8:50 – 9:15 am



## **Shahram Taj, Ph.D.**

Professor  
Chair, Department of Management and Marketing  
College of Management  
Lawrence Technological University

**Biography:** Dr. Shahram Taj is Professor and Chair of the Department of Management and Marketing at Lawrence Technological University in Michigan. He is an accomplished academican, executive consultant, and with an expertise in business model innovation, lean and sustainable operations, strategic management, production systems design, systems optimization/simulation, and supply chain management.

Dr. Shahram Taj was the Cameron Endowed Chair of Management and Marketing at the University of St. Thomas in Houston from 2008 to 2013. He previously taught at the University of Detroit Mercy from 1987 to 2008 and earned the University of Detroit Mercy President's Award for Faculty Excellence. He also taught in the Global Entrepreneurial MBA Program at Fu Jen Catholic University in Taiwan from 2004 to 2006 and was a visiting professor at Peking University in China teaching in the Beijing International MBA Program in 2004. Dr. Taj also taught at Baruch College, The City University of New York (the largest business school in the United States) from 1984 to 1987.

Dr. Taj has developed several world-class graduate programs such as the MS in Product Development in collaboration with Massachusetts Institute of Technology (MIT), Ford, Xerox, and the National Science Foundation. He also developed graduate degree programs in Software Engineering, EMBA, and Supply Chain/Transportation Efficiency Systems (funded by the U.S. Dept. of Transportation) at the University of Detroit Mercy.

Dr. Taj has conducted over 100 projects at Ford, Visteon, New Venture Gear (formerly joint venture of GM and DaimlerChrysler), GM-Holden, Baker Hughes, and Schlumberger in the United States, Germany, Australia, and Japan. The projects have covered productivity improvements, implementing lean manufacturing, and optimizing process design. In 1999, he earned the Franz Edelman Finalist Award for Achievement in Operations Research/Management Science. The award was based on projects that resulted in \$15.5 million capital savings and a profit increase of over \$2 billion for Ford Motor Company. From 1998 to 2000, Shahram worked directly with the executive Vice President of Worldwide Operations of the New Venture Gear Company in designing a new lean automotive manufacturing plant in Germany to supply powertrain to



Porsche Cayenne and Volkswagen Touareg that resulted in savings of \$21 million. From 2009 to 2010, Dr. Taj served as an Executive Technical Advisor to executives in the new worldwide Supply Chain and Manufacturing Division at Baker Hughes in Houston.

Shahram also collaborated with the Production System Design Laboratory at MIT conducting research in the design and the implementation of "lean production systems" in the automotive industry in the U.S. and Europe from 1996 to 2000. Dr. Taj has served as Thesis Advisor/Reader of over 100 graduate students at UDM including a doctoral thesis committee at MIT. He served as the track chair of the "Lean Manufacturing, Manufacturing Information Management, Supply Chain, and Product Development" for the SAE International in Ireland, Spain, and France. He has published over 60 refereed articles in journals and proceedings of many international conferences. Recently, he published several articles on the adaptation of lean production in China and Bank Efficiency in Turkey.

Shahram earned his Ph.D. in Industrial Engineering and Operations Research from the University of Massachusetts (1984). He has a MS degree in Industrial Engineering from the University of Rhode Island (1980) and a BS in Applied Mathematics/Operations Research from the School of Planning and Computer Applications in Tehran (1977).

#### 09:30 – 10:00 Welcome Address

**10:00 – 11:00 Opening Keynote: Dr. Pamela McCauley**, Professor, Department of Industrial Engineering and Management Systems and Director, Human Factors in Disaster Management Research Team, University of Central Florida, USA

11:00 – 11:30 Networking Break

### 11:30 – 12:45 Global Engineering Education II (Thursday) – Salon 5

Session Chair: Dr. Kit Fai Pun, University of the West Indies

11:30 – 11:55 am, Thursday



#### Dr. Kit Fai Pun

Professor of Industrial Engineering  
Campus Coordinator and Chair, Graduate Studies & Research  
School for Graduate Studies & Research  
Department of Mechanical and Manufacturing Engineering  
Faculty of Engineering  
The University of the West Indies  
St Augustine Campus, Trinidad and Tobago

#### *Exploring Industrial Engineering and Education: From Illustrated Cases to Best Practice of Graduate Research Supervision*

**Abstract:** Industrial Engineering (IE) is a people-oriented, customer-oriented engineering discipline. It emerged as a profession that comprehends knowledge and skills in applying scientific analysis, technical design, management techniques, financial appraisal and human relations principles in order to improve quality, productivity, investment and human development in operations. This presentation is of two-folds. It will firstly explore the versatility of IE in building competence in firms and industries with illustrated cases. It then discusses the challenges of graduate research in IE as well as the best practice of graduate student supervision in universities.

**Bio:** Dr. Kit Fai Pun joined The University of the West Indies (UWI), Trinidad and Tobago as a Senior Lecturer in 2001 and became a Professor of Industrial Engineering (IE) in 2004. He has been serving as the coordinator of IE research group and programmes in the Department of Mechanical and Manufacturing Engineering since 2001, and is presently the Deputy Dean of Research and Postgraduate Student Affairs of the Faculty of Engineering.

Before joining UWI, he held several academic positions at City University of Hong Kong, and worked in industry as operations executive, researcher, engineer and consultant in Hong Kong and the UK. Professor Pun is a Chartered Engineer and a Chartered Marketer in the UK, as well as a Registered Professional Engineer in Europe, Australia, Hong Kong, and The Republic of Trinidad and Tobago. He is a member of Caribbean Academy of Science and many professional bodies and learned societies (such as IEEE, IIE, ASME, ASQ, IET, BCS, CIM, IEAust, HKIE, HKSQ, and APE). Professor Pun is currently the Chairperson of the Technology and Engineering Management Society (TEMS) Chapter of the IEEE Trinidad and Tobago Section. He was a Past Chair the Mechanical & Industrial Engineering Division of the Association of Professional Engineers of Trinidad and Tobago (2004-2009).

Professor Pun is a member of the Editorial Board of The West Indian Journal of Engineering, The Asian Journal on Quality, and International Journal of Quality and Standards. He is also an *ad hoc* reviewer of several journals such as the International Journal of Quality and Reliability Management, R&D Management, International Journal of Production Research, and International Journal of Technology Management.

He had completed several research projects funded by UWI and other overseas universities and governments. Presently, Professor Pun has five MPhil/PhD students. He published more than 200 journal articles, research and technical papers. His current research interests are in the areas of industrial engineering, engineering management, quality management, performance measurement and information technology/systems. His research work has been cited widely by researchers and scholars. As at April 2015, there were some 2,843 citations of his publications, and the 'h-index' was 32 and the 'i10-index' was 54 (source: <https://scholar.google.com/>). Dr. Pun has received several recognitions of my research accomplishments, including the 2008 Vice-Chancellor's Award for Excellence (Teaching and Research) and the 2012 'Most Outstanding Researcher Award' (Engineering) recognized by the University. His biography has been selected for The Marquis Who's Who in the World (since 2005) and The Marquis Who's Who in Science and Engineering (since 2006).

11:55 am – 12:20 pm, Thursday



## Dr K.C. Vora

Vice President SAEINDIA

Member, SAE International Engineering Meetings Board

Sr. Dy. Director & Head, ARAI Academy

The Automotive Research Association of India

Research Institution of the Automotive Industry

Pune, India

### *Excellence in Skill Development through Engineering Education*

**ABSTRACT:** Engineering Education has to come out of the four walls of classroom and create an appropriate balance between 'fundamentals' and 'applications'. The students should learn from fundamentals to applications in the classroom and from application to fundamentals outside the four walls of the classroom. The engineering students are finally expected to think critically, understand constraints, solve problems, make concepts, design products, make prototypes and validate them for the progress of mankind. This is possible through Project Based Learning (PBL) with the help of Industry Academia Partnership leading to first year corner-stone mini-projects and last year cap-stone design-projects.

With shrinking world and more use of Information and Communications Technologies (ICT), it is proposed to reengineer engineering education, not only in the field of manufacturing but also in R&D and innovation. In such a scenario, STEM (Science, Technology, Engineering and Maths) based dedicated global engineering education Programmes will enable students to use conceptual knowledge to develop solutions to real world problems in a practical manner. They must also have domain knowledge, soft skills like passion, confidence, leadership, team work, learning skills, communication skills and attitude. This will provide the perfect impetus for the next generation of industry professionals who will fuel the economic growth.

The engineering students require overall skill development to enable them to keep abreast of the latest technology & testing methods and to take a systems view of the industry & its processes, while developing their technical & managerial capabilities in global scenario. The teaching faculty is required to accept continuous change and achieve & sustain excellence in education quality, service and co-ordination. A university may prefer a mathematical derivation structure, but what is important is the practical approach for surviving in the Academia. This paper elucidates long term and short term programmes in Engineering developed globally to meet these needs. This program has been evolved jointly by The Automotive Research Association of India (ARAI), Academia and the Industry through Global Collaborations.

**BIOGRAPHY:** Dr. Kamalkishore Vora has done his Bachelors in Mechanical Engineering (1983) from BVM-Vallabh Vidyanagar, Masters in Automobile Engineering (1985) from VJTI-Mumbai University and his Ph.D. (2000) from IIT-Bombay on the subject of Automotive Air Pollution Control. He has a vast industrial & academic experience of 28 years and has been associated with Walchand Nagar Industries – Satara, Emitec Emission Controls – Pune, Mahindra & Mahindra – Nashik and The Automotive Research Association of India (ARAI) – Pune. He has specialized in the field of Education & Technology Development, Soft Skills, Engine R&D and Emission Controls. He is instrumental in starting ARAI Academy, which conducts B. Tech, M. Tech. & Ph.D. Courses in Automotive Engineering in Collaboration with VIT University-Vellore, VelTech University-Chennai, College of Engineering-Pune, University of Alabama-Birmingham & Tennessee Tech University-USA. He also conducts short term courses popularly known as Proficiency Improvement Programmes (PIPs) & Domain Training Programmes (DTPs). Presently Dr. Vora is Sr Deputy Director and Head of ARAI Academy and looks after Learning Centre, Training Centre and Knowledge Centre at ARAI, Pune. He is the recipient of the 'Best Learning Centre Award 2011' for ARAI Academy & Knowledge Centre from the Indian Society for Training & Development at Pune. Recently, he received GURU Award from SAEINDIA Foundation New at Delhi for his contributions to the students of India. Dr. Vora is trained at Ford Motors, General Motors, Corning, United States EPA and Emitec-Germany. He was conferred the position of Chairman, Board of Advisors (Academic) by VelTech University, Chennai and "Adjunct Professor" by VIT University-Vellore and has been Visiting Faculty in various Engineering Colleges. He was the Secretary (now Vice President) of the Society of Automotive Engineers (SAEINDIA) and conducts series of Conferences, Seminars, Workshops, Courses and various students' activities like AWIM, BAJA & SUPRA SAEINDIA. He is also coordinator of SAEINDIA Western Section, Member of SAE International Engineering Meetings Board, Member of Education Board of FISITA and SAEINDIA Off-Highway Board. He was Co-Chairman of Technical Committee of APAC 2012, Chairman of Technical Committee of SIMCOMVEC 2013 and recently Convener of SIAT 2015 SAE Conference held in January 2015. Dr. Vora has 2 patents, 2 books, 2 reports, 16 international papers & 30 national papers to his credit.

12:20 – 12:45 pm, Thursday



## Rumi Tobita

Ashikaga Institute of Technology

Ashikaga, Tochigi, Japan

### *Developing an Effective ESP Course for Engineering Students Integrating Analysis with NIRS*

Rumi Tobita is an associate professor of department of Innovative Engineering, Ashikaga Institute of Technology in Japan. Ms. Tobita holds a Bachelor of Liberal Arts degree in Language Education, a Master of Education degree in Audio-Visual Education, and certification of Doctoral Candidate in Audio-Visual Education from International Christian University, Tokyo, Japan. Her research topics are Computer Assisted Language Learning (CALL), Educational Technology, Curriculum Development, English Program Development, English for Specific Purposes, Extracurricular activity and International Exchange Program Development, and Brain Science. She has taught several fields of courses such as Educational Technology, Social Information, Brain Science besides English

courses for engineering students for more than 10 years. She is committee member of The Japan Association for Language Education and Technology (LET) and also local organizing committee of World CALL 2008.

13:00 – 14:00 **Lunch Keynote:** **Thomas Seubert**, North American Delivery Lead for Manufacturing Execution Systems (MES), Tata Technologies, Novi, Michigan, USA

14:00 – 14:30 Networking Break

## 14:30 – 15:45 Global Engineering Education III (Thursday) – Salon 5

Session Chair: Dr. Jose Deliz, Universidad Turabo, Puerto Rico

2:30 – 2:55 pm, Thursday



### Dr. Charles Mbohwa

Professor and Vice-Dean Postgraduate Studies, Research and Innovation  
Faculty of Engineering and the Built Environment (FEBE)  
University of Johannesburg's (UJ)  
South Africa

**Bio:** Professor Charles Mbohwa is the Vice-Dean Postgraduate Studies, Research and Innovation at University of Johannesburg's (UJ) Faculty of Engineering and the Built Environment (FEBE). As an established researcher and professor in the field of sustainability engineering and energy, his specializations include sustainable engineering, energy systems, life cycle assessment and bio-energy/fuel feasibility and sustainability with general research interests in renewable energies and sustainability issues. Professor Mbohwa has presented at numerous conferences and published more than 150 papers in peer-reviewed journals and conferences, 6 book chapters and one book. Upon graduating with his B.Sc. Honors in Mechanical Engineering from the University of Zimbabwe in 1986, he was employed as a mechanical engineer by the National Railways of Zimbabwe. He holds a Masters in Operations Management and Manufacturing Systems from University of Nottingham and completed his doctoral studies at Tokyo Metropolitan Institute of Technology in Japan. Prof Mbohwa was a Fulbright Scholar visiting the Supply Chain and Logistics Institute at the School of Industrial and Systems Engineering, Georgia Institute of Technology, is a fellow of the Zimbabwean Institution of Engineers and is a registered mechanical engineer with the Engineering Council of Zimbabwe. He has been a collaborator to the United Nations Environment Programme, and Visiting Exchange Professor at Universidade Tecnológica Federal do Paraná. He has also visited many countries on research and training engagements including the United Kingdom, Japan, German, France, the USA, Brazil, Sweden, Ghana, Nigeria, Kenya, Tanzania, Malawi, Mauritius, Austria, the Netherlands, Uganda, Namibia and Australia.

2:55 – 3:20 pm, Thursday



### Dr. Shannon Flumerfelt

Associate Professor  
Educational Leadership  
Director of Lean Thinking for Schools  
Pawley Learning Institute  
Oakland University  
Rochester, MI 48309, USA

#### *The New DNA of Engineering Education*

Shannon Flumerfelt, Ph.D., is an Associate Professor in the Department of Organizational Leadership, an Endowed Professor of Lean, and the coordinator of the online Education Specialist degree program at Oakland University, Rochester, MI, USA. She has authored over 100 scholarly publications and books. Dr. Flumerfelt is interested in organizational improvement, leadership development and educational change. As a qualitative educational researcher, she works on many interdisciplinary projects, especially in engineering, systems and complexity. Her research focuses on lean performance management, instructional technology, content/competency designs for educational delivery and systems-based organizational leadership.

3:20 – 3:45 pm, Thursday



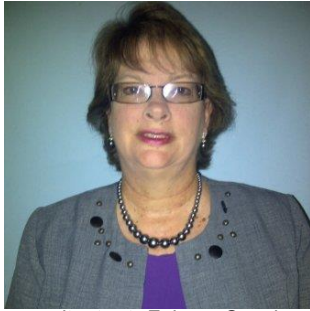
### Dr. Jose R. Deliz

Associate Dean, School of Engineering  
Professor and Director of Industrial and Management Engineering  
Universidad Turabo  
Puerto Rico

#### *How to achieve academic excellence through assessment in IE Education*

**Bio:** Dr. Jose Deliz is an Associate Dean of School of Engineering, Professor and Director of Industrial and Management Engineering, at University of Turabo, Puerto Rico. He was Professor of Industrial Engineering at University of Puerto Rico Mayagüez during 1981-2003. Dr. Deliz held various positions at UPRM including: Director, Office of Planning and Development, Institutional Research, Interim Director of IE Department,

Interim Dean of Administration, and Associate Director Information Systems, Office of Planning and Development, UPR System. He was an Associate Professor, School of Business Administration, and Director Office of Planning and Development, UPR Rio Piedras Campus (1974-1976). Dr. Deliz has published numerous papers. He is a member of IIE.



## Jacqueline Mullen

Vice-chancellor Sponsored Research and Programs  
Universidad del Turabo  
Ana G. Mendez University System, Inc.  
Puerto Rico

**Bio:** Jacqueline Mullen is Vice-Chancellor Sponsored Research and Projects Universidad Turabo. She holds an MS Community Economic Development Southern New Hampshire University, BA Latin American Studies and Spanish, Hartwick College. Member of Honor society, editor of School newspaper. She was consultant in Organizational Development and Fund Raising, Fund development and NGO/Small Business Development for the Gateway to San Juan project in public housing of Manuel A. Perez and Ramos Antonini and surrounding areas. Executive Director of P. R. Farm Bureau.

15:45 – 16:00 Break

## 16:00 – 17:15 Global Engineering Education IV (Thursday) – Salon 5

Session Chair: Dr. Hamid Parsaei, Texas A&M University (College Station)

4:00 – 4:30 pm



## Dr. Hamid Parsaei, PE

Professor of Industrial and Systems Engineering  
Texas A&M University (College Station)  
and  
Professor of Mechanical Engineering and  
Director of Academic Outreach  
Texas A&M University Qatar

**Bio:** Hamid R. Parsaei is Professor of Industrial and Systems Engineering at Texas A&M University (College Station) and also Professor of Mechanical Engineering and Associate Dean for Academic Affairs at Texas A&M University at Qatar. He is a registered professional engineer (PE) in Texas, a Fellow of the Institute of Industrial Engineers (IIE), and a Fellow of the American Society for Engineering Education (ASEE). He has published over 200 articles in peer-refereed archival journals and conference proceedings. He has also served as editor/co-editor in chief for four academic journals and five book series. His research, in excess of \$22 million, has been funded by numerous government and private institutions.

4:30 – 5:00 pm



## Dr. Christoph Wunck

Professor  
Business Computing Systems, Industrial Engineering  
College of Management, Information, Technology  
Jade University  
Wilhelmshaven, Germany

***Raising intercultural awareness of engineering students – Strategies, challenges and lessons learned from six years of German- American Engineering Summer Programs***

The talk is about a successful international undergraduate exchange program between Texas Tech University and Jade University in the area of industrial engineering, serving the different needs of students from both institutions for mutual benefit.



5:00 – 5:30 pm



## Dr. Bidyut Kumar Bhattacharyya

Professor, Mechanical Engineering Department  
 Director, School of Safety & Occupational Health Engineering  
 Indian Institute of Engineering Science & Technology  
 Shibpur, West Bengal, India

### *Globalizing Engineering and Management Education in India*

**Bio:** Bidyut Kumar Bhattacharyya received B.Sc. in Mechanical Engineering from University of Calcutta, MS in Production Engineering from Faculty of Technology, M.S University, Baroda, Gujarat, and Ph.D. from Jadavpur University, Kolkata, India. He has certificate of Training on TQM – Japan Union of Scientist & Engineers (JUSE), Tokyo, Japan. Dr. Bhattacharyya has 8 years industrial experience in M.N.Dastur, Hindustan Motors and TTK Group in Quality Assurance Department. He was visiting faculty at Jadavpur University, Institute of Engineers – India, and Academic Staff College, IOLC, Haldia. Dr. Bhattacharyya co-chaired, several International Conference on Industrial Engineering & Engineering Management, China and is a member of National Sectoral Innovation Council on Occupational Safety and Health (OSH) by the Ministry of Labor and Employment, Government of India. He has provided many keynote speeches. His research areas are Advanced Manufacturing System, Industrial Engineering, Quality & Production Management, Human Resource Management, Operation Research, and Safety & Occupational Health. Dr. Bhattacharyya has supervised many doctoral students and published many international conference and journal papers and is on the board of editors of quite a few reputed journals. He is a Member of Academic Council, School of Management Science, Indian Institute of Engineering Science & Technology, Shibpur. He has been actively involved in collaboration of industry and academia and in development of research laboratories. Dr. Bhattacharyya has also been a distinguished speaker on Global Engineering Education at IEOM Conference at Bali, 2014. He has been member of various committees of NBA, UPSC and AICTE, New Delhi.

## September 11, 2015 (Friday)

### 08:00 – 10:00 Global Engineering Education V (Friday) – Salon 4

Session Chair: Dr. D. K. Banwet, Indian Institute of Technology (IIT) – Delhi

8:00 – 8:30 am, Friday



## Jairo Alfonso Vargas, IE, BBSS

Department Head, Department of Industrial Engineering  
 Fundación Universitaria Konrad Lorenz, Bogotá Colombia  
 Regional VP of IIE, Central and South America

Professor Vargas is Head of the Department of Industrial Engineering at Fundación Universitaria Konrad Lorenz, Bogotá, Colombia since 2008. He was and Associate Professor of Industrial Engineering at Escuela Colombiana de Ingeniería, (Bogotá) from 2003 to 2007. Professor Vargas was Dean, Faculty of Industrial Engineering at Escuela Colombiana de Ingeniería. He also worked at Universidad del Norte (Barranquilla), Pontificia Universidad Javeriana, (Bogotá), Universidad de América, (Bogotá), and Universidad Santo Tomás, (Bogotá).

Dr. Vargas serves as a Faculty Advisor for IIE Chapter at Escuela Colombiana de Ingeniería. He has been an International Consultant and Coach for over 20 years on different issues regarding Industrial Engineering such as Six Sigma, Lean Manufacturing, Work Measurement, MPS, MRP, JIT, CONWIP, etc. Dr. Vargas is an associate Consultant for "TBL" in Guayaquil Ecuador, 2000-present. He is serving as a REGION VICE

PRESIDENT of IIE, CENTRAL AND SOUTH AMERICA. Professor Vargas is also involved with other professional organizations including: ACOFI Member (Asociación Colombiana de Facultades de Ingeniería) 2007-present, member of Asociación de Ingenieros Javerianos (1991-present), member of the Academic Council of the Pontificia Universidad Javeriana, 1998 and member of the Board of Directors at Fundación Universitaria Konrad Lorenz, 2011-present. He graduated from Pontificia Universidad Javeriana, in Industrial Engineering in 1987 and received Black Belt, Six Sigma from Escuela Colombiana de Ingeniería in 2003.

8:30 – 9:00 am, Friday

## Carlos Ernani Fries and Guilherme Luz Tortorella

Federal University of Santa Catarina  
 Florianópolis, SC, Brazil

### *Application of Focus Groups and Learning Cycles on the A3 Thinking Methodology: The case of increasing machinery capacity at a steel plant*

**Guilherme Luz Tortorella** is Adjunct Professor at the Department of Production and Systems Engineering of the Federal University of Santa Catarina (UFSC), Florianópolis, Santa Catarina State, Brazil. He earned his Bachelor degree in Mechanical Engineering from the Federal University of Rio Grande do Sul (UFRGS). His Master in Production Systems and PhD in Production Engineering were also earned from UFRGS.

Mr. Tortorella has experience in Production and Quality Systems, having taught in the graduate programs at UFRGS, ULBRA, PUCRS, UNOESC, FSG and ESADE as a guest professor. He also has 12 years of experience in the automotive industry with international activities in Mexico, England, USA and Uruguay.

**Carlos Ernani Fries** is Assistant Professor of the Department of Production and Systems Engineering at the Federal University of Santa Catarina (UFSC), Florianópolis, Santa Catarina State, Brazil. Mr. Fries holds a Bachelor degree in Civil Engineering as well as a Master and PhD in Production Engineering from UFSC. He has taught courses in Operations Research applied to Manufacturing and Logistics, Decision Theory, Statistics and Forecasting Models among others. His research interests include manufacturing, simulation, optimization, management games, data analysis applied to logistics, and application of big data tools. He is member of POMS.

9:00 – 9:30 am, Friday



### Vladimir Robles Bykbaev

Coordinator of the Research Group on Artificial Intelligence and Assistive Technologies  
Universidad Politécnica Salesiana  
Cuenca, Ecuador

9:30 – 10:00 am, Friday



### Dr. D. K. Banwet

Emeritus Professor  
Department of Management Studies  
Indian Institute of Technology (IIT) – Delhi  
India  
President of Indian Institute of Industrial Engineers – Delhi Chapter

Dr. Devinder Kumar Banwet is an Emeritus Professor (Operations & SCM) at the Department of Management Studies IIT Delhi. He received Eminent Engineer Award 2011 - Institution of Engineers (India) Delhi Chapter. Dr. Banwet is a FIE Fellow of the Institution of Engineers (India), Former National President of Indian Society for Training & Development (ISTD), National Treasurer, Chairman T&D Diploma Board, and Fellow & Life Member ISTD. He was President of Decision Sciences Institute India Chapter, former Head of the Department of Management Studies (DMS) at IIT, Delhi, Dalmia Chair Professor & Coordinator of Applied Systems Research Programme & Entrepreneurship Programme at IITD. Prof. Banwet is elected currently as Chairman IIIE Delhi Chapter. He has 40+ years of professional experience as a professor, Researcher, Trainer, Administrator and Consultant. Dr. Banwet has 140+ publications and 29+ PhDs supervised. He had foreign assignments at Kuwait Institute for Scientific Research & in International Management Programme University of Sorbonne at Paris & 3 India Government deputation of 90 days each as Visiting Expert Faculty at Asian Institute of Technology at Bangkok. He received Pioneer Excellence Award as a doyen in SCM (2009), 16<sup>TH</sup> Dewang Mehta Business School Excellence Award Best Teacher Operations, Life time achievement awards of DMS SOM IIT Delhi, Nagaland Open University & Knowledge Management Society. Dr. Banwet also received Conferred Emerald (UK) Literati Award for a Technical Paper in International Journal of Productivity & Performance Management, highly commended Paper Journal of Enterprise Information Management & Modelling & Systems (2011). Recently one joint paper presented at an International Transportation Conference at France was awarded a special PC Award. He has conducted a large number of MDPs for government, public sector, private sector and Defense. & E-learning programmes by E-Macmillan & IITD & Hughes Satellite Communication based Programmes on Project Management, Supply Chain Management. Dr. Banwet was a Member high level committees of the Government of India, Ministry of HRD etc., National Board of Accreditation, Distance Education Approval Committee and a Board Member in some reputed Management & Engineering Institutions.

10:00 – 11:00 **Morning Keynote: Alastair Orchard**, Director Digital Enterprise Projects,  
Siemens PLM Software, Genoa, Italy

11:00 – 11:30 Networking Break

11:30 – 13:00 **Global Engineering Education VI (Friday) – Salon 4**

**“Outcome-Based Education (OBE) Workshop:**

**The Essence of OBE and Implementation Experiences in Malaysia”**

**Abstract:** There is a growing concern among practitioners on the competencies of fresh graduates in Malaysia. Some of the organizations have developed ‘special’ trainings to equip our graduates who are perceived as lack of soft skills and not ready to join the workforce. The Education Ministry has even developed a BLUEPRINT on our graduates attributes that needed by the industries. Outcome Based Education (OBE) has been introduced and implemented for more than 5 years in Malaysia. However, the program learning outcomes (PLOs) that supposedly converted into competencies and attributes of graduates have failed to satisfy the industries. Hence, this paper explores the issues and challenges in implementing OBE in a course in a management of Technology (MoT) program in UTHM. It adopts the qualitative methodology.

The research strategy is a case study. The case study protocol is based on the stages in OBE implementation. The findings discovered that there are three critical issues that hinder the success of the implementation of the OBE concepts; which are at least the human capital factor (lecturers and students), the system (management) and the infrastructure (e.g. library, classroom, etc.) that related to OBE implementation.



### Dr. Chan Chee-Ming

Associate Professor and Deputy Dean (Academic and Research)  
Centre for Graduate Studies  
Universiti Tun Hussein Onn Malaysia  
Batu Pahat, Johor, Malaysia

**Bio:** Chee-Ming Chan is an Associate Professor with the Civil Engineering Technology Department, Faculty of Engineering Technology, Universiti Tun Hussein Onn Malaysia. She is presently holding the office of Deputy Dean in Academic and Research at the Centre for Graduate Studies in the University. Her area of expertise includes geo-materials, engineering education and higher education improvement. More recently, Dr. Chan's current work on dredged materials from Malaysian waters has gained momentum and support from the Ministry of Science, Technology and Innovation and Department of Marine, Malaysia. She is also involved in professional bodies, including the Society for Engineering Education Malaysia (SEEM), Malaysian Geosynthetics Society (MyIGS), Institution of Engineers Malaysia (IEM), Board of Engineers Malaysia (BEM), and is an education quality auditor for the Malaysian Qualification Agency (MQA). From 2009-11, Dr. Chan served as a Postdoctoral Research Fellow at the Port and Airport Research Institute (PARI), Japan.



### Dr. Alina Shamsudin

Associate Professor  
Deputy Dean (Teaching, Learning and Academic Training)  
Centre for Academic Development and Training  
Universiti Tun Hussein Onn Malaysia  
Johor, Malaysia

**Bio:** Alina Shamsuddin is currently an Associate Professor (Technology Management) with the Faculty of Technology Management and Business of Universiti Tun Hussein Onn Malaysia. Being a founding member of her faculty, Dr. Alina is not only knowledgeable on the immediate

related fields of performance measurement, production and management, she is also an expert on educational quality assessment and assurance, with 5-year experience as an auditor for the Malaysian Quality Agency (MQA). Her research concerns are myriad but inter-related, encompassing higher education quality assurance and reforms, effective teaching and learning, as well as innovative technology adoption for SMEs. Currently heading the Unit of New Programmes Development, Dr. Alina is consolidating her effort to make a difference in the quality of programme design and delivery in the overall higher educational arena, institutionally and nationally.



### Dr. Azeanita Suratkon

Senior Lecturer at the Faculty of Civil & Environmental Engineering  
Lead – Department of Building and Construction Engineering  
Universiti Tun Hussein Onn Malaysia  
Johor, Malaysia

Azeanita Suratkon is currently a Senior Lecturer at the Faculty of Civil and Environmental Engineering, and leads the Department of Building and Construction Engineering. Dr. Azeanita had a multi-national education background: bachelor's at UTM (Malaysia), Master's at Herriot-Watt University (Scotland) and PhD at Chiba University (Japan). Her international exposure has given her the leverage for a multi-facet approach in her chosen field of study,

which primarily revolves around construction management, risk assessment and procurement issues. Dr. Azeanita also aims to improve the current engineering education practice, in line with the nation's Outcome-based Education philosophy, by drawing on her rich multi-discipline background. Her continuous effort in enriching construction management and higher educational reforms are driven forward in collaboration with Japanese counterparts too.

1:00 – 1:45 **Friday Lunch Keynote: Dr. Miguel Gastón Cedillo-Campos**, Professor in Logistics Systems Dynamics, Senior Researcher, Mexican Institute of Transportation and Founding President, Mexican Logistics and Supply Chain Association (AML)

**1:45 – 2:30 Friday Lunch Keynote: Uriel R. Cukierman**, Professor, Facultad Regional Buenos Aires, Universidad Tecnológica Nacional, Buenos Aires, Argentina and **President, International Federation of Engineering Education Societies (IFEES)**

**2:30 – 3:30 Competition Awards and Recognitions**

**3:30 – 4:45 pm Global Engineering Education VII (Friday) – Salon 4**

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

3:30 – 3:55 pm



## **Dr. Srinivas R. Chakravarthy**

Professor and Department Head  
Industrial and Manufacturing Engineering  
Kettering University  
Flint, Michigan, USA

***Modeling and Simulation in Undergraduate Education in Industrial Engineering Program: Opportunities and Challenges***

**ABSTRACT:** Industrial Engineering (IE), as we all know, is centered on people and processes. First, the industrial engineers interact with people to get a better understanding of the problems the businesses and industries face. Secondly, using the skills and techniques learned in the classroom settings, they offer implementable solutions in practice. Further, the Industrial Engineers always look for ways to continuously improve the process and the products. In this talk, we will present the opportunities and challenges that undergraduate IE students as well as the educators face in dealing with two key skill sets: Modeling and Simulation, which are essential (among other skill sets) in providing solutions to a variety of problems in real-life applications.

**BIO:** Dr. Chakravarthy is Professor and Head of the Department of Industrial and Manufacturing Engineering at Kettering University (formerly known as GMI Engineering & Management Institute), Flint, Michigan. He received his BS (Mathematics) and MS (Statistics) degrees from the University of Madras, India, and Ph.D (Operations Research) from the University of Delaware, Newark, USA.

Dr. Chakravarthy's research interests are in the areas of algorithmic probability, queuing, reliability, inventory, and simulation. He has published more than 100 papers in leading journals and made more than 85 presentations at national and international conferences. Recognizing the impact of Neuts' Matrix-analytic methods in stochastic models, he initiated the organization of International Conference Series on Matrix-Analytic Methods (MAMs) in Stochastic Models. He co-organized the First International Conference on MAMs in Stochastic Models in 1995 held in Flint. Following the success of this conference and interests shown in the MAMs research community, the next seven conferences were held in Winnipeg, Canada (1998), Leuven, Belgium (2000), Adelaide, Australia (2002), Pisa, Italy (2005), Beijing, China (2008), New York, USA (2011), and Calicut, India (2014). The ninth one is slated to be held in Budapest, Hungary (2016).

Dr. Chakravarthy has been a visiting faculty at the Department of Statistics and Operations Research, Complutense University of Madrid, Madrid, Spain, the Department of Mathematics, Cochin University of Science and Technology, Cochin, India, and the Department of Mathematics and Statistics, Victoria University of Wellington, Wellington, New Zealand.

Dr. Chakravarthy's recognitions and awards include (a) NSF Conference Award – Co PI (DMS-1360865), 2014-2015; (b) Rodes Professor, Kettering University, 2010-2012; (c) Kettering University Distinguished Research Award, 2003; (d) Kettering University/GMI Alumni Outstanding Teaching Award, 2001; (e) Sloan Grant for developing ALN courses at Kettering University, 2000; (f) GMI Outstanding Research Award, 1996; (g) Sloan Faculty/Industry Exchange Fellowship, 1996; (h) GMI Research Initiation/Improvement Grant, 1995; (i) NSF Conference award (DMI-9424312), 1995; (j) NSF Research award (DDM-9313283), 1993-1997; (k) GMI Alumni Outstanding Teaching Award, 1990; GMI Research Initiation/Improvement Grant, 1990; (l) Lilly Faculty/Industry Exchange Fellowship, 1988.

Dr. Chakravarthy has significant industrial experience by consulting with GM, FORD, PCE, and UPS. He has also served as Engineering Group Manager for Operations Research Division in General Motors.

Dr. Chakravarthy's professional activities include serving as (a) Area Editor for the journal, Simulation Modelling Theory and Practice; (b) Associate Editor for the journal IAPQR TRANSACTIONS – Indian Association for Productivity, Quality & Reliability; (c) Advisory Board Member for several other journals and International Conferences; (d) Reviewer for many professional journals; and (e) External Examiner for a doctoral thesis from abroad.



3:55 – 4:20 pm



## Dr. Sabah Abro

Professor

Program Director, Master of Science in Engineering Technology

Department of Engineering Technology

Lawrence Technological University

Southfield, Michigan, USA

### *Multi-Approach Evaluation of Entrepreneurial Senior Project Course*

**Bio:** Dr. Abro is an internationally-educated person with a bachelor degree from Baghdad University, a Master's Degree from the United Nations institute in the Middle East, a Master's degree from Britain and a Ph.D. from Belgium. His education helped him to learn four languages, Arabic, English, French and Chaldean. Dr. Abro taught in Iraq, Jordan and also as a visiting lecturer in Kuwait and Morocco. He assumed different positions such as faculty, regional consultant, chair of department and acting Dean. Before joining LTU he

was a Program Director at Focus: HOPE where he worked with the curriculum committee of the Greenfield Coalition. This committee designed a complete paradigm in manufacturing engineering education. Courses were developed and delivered at Focus: HOPE by three university partners. Sabah joined LTU as an adjunct faculty in 1997, then as a full time faculty in 2000. He served two departments, Math& Computer Science and the Engineering Technology. As a full time faculty at LTU, he teaches a variety of classes, advises students, works on curriculum improvement, course development, writes professional papers and presents in conferences. His passion in Education led him to be the winner of 2012 faculty of the year award at Lawrence Technological University and being nominated for Teaching Excellence and Using Technology in Classroom Awards. He is the Director of Master's program in Engineering Technology, teaches courses for Doctorate students and is a member of several Doctorate Committees in the College of Engineering. Dr. Abro serves as Director of the University Assessment Committee and the Vice Chair of the Engineering Faculty Council.

4:20 – 4:45 pm



## Dr.-Eng. Eldon Caldwell

Director, Industrial Engineering Department

Engineering School

University of Costa Rica

### *Using Robotics as Educational Framework Strategy in Industrial Engineering: The Experience at University of Costa Rica*

**Abstract:** Industrial engineering evolve, as formal science and as practice, in a world experiencing a faster technological revolution that gave birth to the late nineteenth century. The "core study object" of this discipline is still what I call "the complex production system"; which is present in contexts as diverse as the services sector, the goods producing sector, government organizations and public and private social organizations. One of the main features of these new complex production systems, is undoubtedly cognitive ability in dynamic and chaotic environments so robotic applications appear as a technological factor. Analyzing the experience at the University of Costa Rica, this conference focuses on how robotics can be used to address collaborative learning, learning through projects and also developing teamwork skills, cognitive skills of abstract conceptualization, computer programming skills and design skills in concurrent environments. Implementing some changes in the curriculum and the didactic strategies, robotics give more pedagogical benefits when we use their principles in order to develop a "pragmatic, statistic, strategic, systemic and frugal" thinking. A preliminary model is presented in this lecture.

**Bio:** Eldon Caldwell, is full professor/ Cathedricus of the University of Costa Rica, Central America; Doctor (Ph.D.) in Industrial Engineering major in *Lean Operations Engineering*. He developed new heuristic sequencing algorithms in order to reduce cycle times and received *Suma Cum Laude* in his doctoral dissertation and Academic Crown Excellence Award in Autonomous University of Central America/ University of Nevada, USA. Currently, he is doctoral researcher at the (Dr. Sc.) Computing Science Program at the University of Alicante, Spain and doctoral researcher at the Dr. Ed. Program at University of Costa Rica, receiving the Academic Excellence Award 2013.

Dr. Caldwell is "Lean Systems Certificated Specialist", MAPV-University of Nevada, USA, ASQ-Six Sigma Black Belt Certified Trainer, and Spanish publications technical reviewer of Gary Conner, 2002 Shingo Prized. Also, Dr. Caldwell has been recognized by the IEOM Society with the "Outstanding Service Award" for his career of over 25 years as an educator, researcher and promoter of development of industrial engineering. Dr. Caldwell earn his B.Sc. and Master degree in Industrial Engineering at University of Costa Rica (Summa Cum Laude) and he earn a Master degree in Service Marketing, as well in Financial Analysis at Interamerican University of Puerto Rico (Costa Rica); M.Sc. Health Management Systems at UNED, Costa Rica and a M.Sc. Operations Management at ITESM, México. He is author of many scientific articles and two books: "Marketing of Social Products and Services", UCR Pub. and "Lean Manufacturing: Fundamentals and techniques for cycle time reduction", Kaikaku Institute Press, USA.

Dr. Caldwell served as Operations Manager at MASECA, CA; Lean Manufacturing Project Manager at Eaton Corp. Costa Rica, General Manager at Quirós & Cia-Bandag Inc. and General Manager at Lean Systems Intl., USA. He has 25 years of experience as advisor and consultant in Operations Management, Lean Manufacturing and Lean Logistics at Interamerican Bank for Development, WHO, UN, World Wide Bank, Coca-Cola, Ministry of Health, Costa Rica, Honduras, Panamá, Costa Rican Institute for Electricity, RTC- Perú, Young Electrical Signs, Nevada, USA, AirCare Inc., Reno, Nevada, Plan International-Honduras, and many others.

Currently, Dr. Caldwell is Director of Industrial Engineering Department at Engineering School of University of Costa Rica.

5:00 – 6:15 pm **Global Engineering Education VIII (Friday) – Salon 4**

Session Chair: Dr. Muhammad H. Zaman, Boston University, USA

5:00 – 5:30 pm, Friday

**Dr. Muhammad H. Zaman**

Associate Professor & Associate Chair for Undergraduate Affairs  
Department of Biomedical Engineering  
Associate Director, Kilachand Honors College  
Boston University, USA

***Engineering Education in Africa: Impact for Development and Sustainability***

**Bio:** Dr. Muhammad H. Zaman is Director of Laboratory of Engineering Education and Development, Associate Professor and Associate Chair of Biomedical Engineering and Associate Director of Kilachand Honors College at Boston University. Prof. Zaman is actively involved in engineering education and curriculum development in resource limited countries. As the co-Director of UN Economic Commission for Africa's Biomedical Engineering Initiative, he is actively involved in creating and sustaining biomedical engineering programs across various institutions in Africa including universities in Kenya, Zambia, South Africa, Ethiopia and Uganda. He has won numerous awards in teaching and educational research, these include awards from IEEE Education Society, IEEE EMBS Young Investigator Award, American Society for Engineering Education and The University of Texas Board of Regents. His work has been profiled by BBC, The New York Times, National Public Radio, Popular Science, Scientific American and others. His research is funded by USAID, UN Economic Commission, NIH, National Science Foundation, Gates Foundation and other international private and public organizations.

5:30 – 6:00 pm, Friday

**Mrs. Ghamande Manasi Vyankatesh**

Vishwakarma Institute of Technology  
666 Upper Indira Nagar, Bibwewadi  
Pune 411037, Maharashtra, India

***Challenges of Self-Financing Engineering Institutes for Better Survival in Future***

**Abstract:** Due to privatization of Technical Education in 1983 in the state of Maharashtra, not only opportunities for higher education in Technical Stream were created but also lot of challenges came on surface. Large no. of Institutions which are essentially self-financing, offered education in unconventional faculties, which was no doubt need of the hour. However the mere no. gave rise to getting good quality students and faculty attracted to these Institutions a real challenge. The socio-economical dimension played vital role in getting placements and preparing engineers which are fit for future. The financial constraints further made it mandatory to look for alternate sources of income, over and above fees collected from students. The fierce competition further worsened the scenario. Time has come to evolve sustainability and maturity model for higher technical education. Income generation through customized MDPs for industry professionals, extending testing and calibration facilities are some options that are readily available with some investment. Implementation of green concepts like through solar campus, STP, ETP are need of the hour. Waste reduction is the key factor. Research has to be strengthened, which traditionally has been overlooked. Systems like ISO QMS, TQM and accreditation by agencies of national/ international repute are now necessary. EDP cell and supporting entrepreneurship on the campus can bring down the placement burdens. Resource sharing is another initiative that can be taken up. All such and many more innovative steps can lead to survival and growth of self-financing institutions in near future.

**Biography:** Mrs. M.V. Ghamande, working as an Assistant Professor at Vishwakarma Institute of Technology, Pune, Maharashtra, India. I have done B.Sc. in Chemistry in 1988 from Savitribai Phule University and M.Sc. in 1990 from same University. I have presented about seven papers in National Conference on technical /my subject. And one technical paper at International Conference at Mauritius In 2010. I have also presented four papers on management topic in National Conference.

6:00 – 6:30 am, Friday

**Dr. Hansa Lysander Manohar**

Associate Professor  
Department of Management Studies  
Anna University  
Chennai, India

***A Roadmap to Integrate Sustainability and Innovation in Engineering Education***

**Abstract:** Engineering education should cater to an innovation process to develop a sustainable product-service which should include need-finding, design, implementation and through various other activities till remanufacturing if it is required. The course should encourage research results to be continuously developed in close collaboration with the global industry to develop a relevant product-service through the theoretical understanding of the future engineers. New ideas should be able to frequently flow from consumers, suppliers, partners, research institutions or even from regulators. This presentation

gives a Roadmap to efficiently use the optimum resources available to lead to a significant cost saving model through extensive impact analysis across the value chain.

**BIO:** Dr. Hansa is an Associate Professor in the Department of Management Studies, College of Engineering, Guindy, Anna University, Chennai, India. She is the Coordinator for Distance Education MBA, M.Sc (Computer Science) and MCA. Dr. Hansa has a B.Tech in Textile Technology, M.B.A in Systems and Marketing and a Ph.D in Operations and Technology Management from Anna University, Chennai, M.C.A from the Institute of Distance Education, University of Madras, Chennai and FDP from Indian Institute of Management -Ahmedabad. She was the 4th University Rank holder in MBA at Anna University and has received the Best Teacher Award in 1996-97 and 1999-2000. Dr. Hansa was involved with Academic Institutions like All India Council for Technical Education (AICTE) and University Grants Commission (UGC) in conducting Induction Training Programmes and Capacity Building Workshops. She has coordinated with Industrial Institutions like CII (Confederation of Indian Industries) to conduct Technical Seminars. Dr. Hansa has prepared Training & Development CD's, given guest lectures through VSAT on Motivational Skills, Behavioral Patterns, Environmental Awareness and Career Counseling. Dr. Hansa has authored books on "Technology Transfer" and "Strategic Technology Planning" for Centre for Distance Education, Anna University, Chennai and "Entrepreneurship & Management of Small Business" for Distance Education, University of Madras. Dr. Hansa has collaborated with All India Council for Technical Education (AICTE) in a development project on Total Quality Management. She has collaborated with ITCOT and KVIC in consultancy activities on feasibility of setting up a processing plant, technology economics for the introduction of a new appropriate technology. She has prepared a Manual for ISO 9000 certification for knitwear units. She has over 25 years of Teaching and Research experience specializing in Optimization of Supply Chains, Healthcare Management, Knowledge Management Systems and Innovative Sustainable Operations. She has guided 9 doctoral research scholars. She has over 15 International and 30 National publications and has presented over 20 International and 35 National papers. She teaches courses on Supply Chain Management, Product Design, Total Quality Management, Knowledge Management Systems, Software Project Quality Management, Cloud Computing and Data Analysis & Business Modeling.

## Sixth IEOM Conference - Kuala Lumpur, Malaysia

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Algeria	Iran	Philippines
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Brazil	Japan	Somalia
Bulgaria	Korea	South Africa
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In a survey conducted by U.S. Black Engineer & Information Technology (USBE&IT) magazine, Siemens has been named a top supporter of Historically Black Colleges and Universities (HBCU) for the twelfth straight year.

Siemens provides in-kind software grants to HBCU Engineering and is the only supplier of Product Lifecycle Management (PLM) software among this year's list of companies. Siemens' support is part of the company's focus on STEM (science, technology, engineering and mathematics) education and diversity initiatives that help drive manufacturing revitalization efforts throughout the U.S.

Siemens' recent \$85 million in-kind software grant to Florida A&M is just one example of its commitment to HBCUs. This software will allow engineering students to train using the same technology as major manufacturers around the world.

"We're committed to leading the industry in diversity initiatives and STEM education support," said Chuck Grindstaff, president and CEO of Siemens PLM Software. "We will continue to work closely with the HBCU community to develop highly qualified and recruited engineers and technologists. [www.siemens.com](http://www.siemens.com)

**Answers for industry.**

**Represented by:** **Alastair Orchard**, Director Digital Enterprise Projects, Siemens PLM Software, Genoa, Italy  
**Hulas King**, Director, Diversity, Professional Affiliations & Global Community Relations at Siemens PLM Software



# IEOM Industry Solutions

## Achieving and Sustaining Operational Excellence

IEOM Industry Solutions sessions will showcase the industrial case studies and their impacts of the industrial solutions using IE / OM tools and techniques (lean, six sigma, FMEA, simulation, design of experiments, optimization, TOC, PLM, CAE, statistical analysis, etc.) IEOM 2015 Orlando Conference will have a dedicated session for the Industry Solutions where distinguished practitioners provide their presentations including their experiences and journey to be successful. Twenty four speakers will be from various part of the world to address industrial challenges and opportunities for continuous improvement and sustainability.

## DISTINGUISHED SPEAKERS

**Thursday (September 10, 2015)**

**11:30 – 12:45 Industry Solutions I (Thursday) – Salon 6**

Session Chair: Dr. Jeanann Boyce, Montgomery College, Maryland



### Nikhil K. Joshi

CEO  
SNic India  
Vijayanagar, Bangalore  
India

**Nikhil Joshi** is currently the CEO of SNic India, a firm specializing in Industrial Engineering, Simulation, Planning, Scheduling & Optimization solutions to enable Cost Reductions and Productivity Improvements in Business. After his degree in Industrial Engineering & Management from M.S. Ramaiah Institute of Technology Bengaluru, Nikhil became a co-founder of SNic India.

The idea initially, only to apply the industrial engineering passion to different business grew into combining fundamental concepts of Operations, Industrial Engineering & Supply chain with Technology to provide solutions that can provide sustainable business Improvements. He also has a Masters Degree in Consultancy Management from BITS, Pilani and has created proficiency in running a professional services firm. Nikhil is passionate about making a difference in the lives of today's engineers, and is working on creating innovative solutions for business organizations that are seeking solutions to sustain cost reductions and productivity improvements.



### Saurabh Gupta

Head, Process Excellence  
ILTD, ITC  
India

#### Successful Lean Six Sigma Deployment in Non-Traditional Setting of Agri-Business

Mr. Saurabh Gupta established Process Excellence Function for Leaf Tobacco Division of ITC in April, 2013 with the launch of division wide Lean Six Sigma Deployment iPIPs (ILTD Process Improvement Practices). Mr. Gupta joined ILTD as Management Trainee in 2011 after completing B.Tech in Electrical Engineering from Indian Institute of Technology Delhi. Mr. Gupta led numerous Process Improvement Projects across different functions of Tobacco and Spices Businesses before launching iPIPs. In 2012, Mr. Gupta established Quality Assurance Cell for Spices Business and achieved BRC Certification with Grade A for its processing facility. Under iPIPs, he has led 70 Lean Six Sigma projects and coached 200 managers so far. Mr. Gupta has contributed to the divisional value touch points through projects executed in the following focus areas: Service Improvement, Product Consistency, Purchase Price Optimization, Yield Improvement, Capacity Enhancement, Manpower & Inspection Rationalization, Energy Consumption Reduction, and Packing Material Wastage Reduction and has already saved 5 times the total cost of the initiative to the division ranging from training to manpower deployment.



## Dr. Jeanann Boyce

Professor, Business, Economics, Accounting  
Computer Applications and Paralegal Studies (BEACAPS)  
Montgomery College  
Takoma Park / Silver Spring Campus  
Takoma Park, MD 20912

### Sustainable Technologies: The Impact Neuromorphic Chips on the Future

**Abstract:** The presentation will analyze some of the latest developments in computer science algorithms that relate to changes in future technologies. Neuromorphic engineering is a new interdisciplinary subject that combines aspects of biology, physics, mathematics, computer science and electronic engineering to design artificial neural systems, such as vision systems, head-eye systems, auditory processors, and autonomous robots, whose physical architecture and design principles are based on those of biological nervous systems. Previous work in exoskeletons is now being expanded to link embedded computer sensors into neural networks to bypass normal motor functions and movement into the brain with computer software. This arena holds great promise individuals who has missing limbs or damaged spinal cords.

A fascinating emerging technology is the development of microprocessors based on biological models of the human brain. Robert D. Hof (2014) calls these chips, “neuromorphic,” though they are still silicon-based. Hof states, these chips, “are designed to process sensory data such as images and sound and respond to changes in that data in ways not specifically programmed.” (p.55). Multiple uses are proposed, from medical tracking devices to more accurate facial recognition. The limitations include the use of very fast parallel processors which add to the cost. Also, the accuracy of the technology is limited by the abilities of programmers to accurately make predictions about the sensory input and have the chip incorporate this data into future activities. So the question arises, “Can computers really learn and adapt?” and “Should we incorporate Asimov’s three laws of robotics as an ethical foundation for building and constructing these devices?”

The last component of this presentation will focus on the ethical and legal aspects associated with advances in neurotechnology. These areas include autonomy, culpability, and sustainability within the larger population. Some time for discussion and questions will be allowed at the conclusion.

**Bio:** Dr. Jeanann S. Boyce has extensive experience as an educator and trainer in Education and Computer Systems over the past thirty years. Her wide teaching background spans business, computer, and management courses from the undergraduate through doctoral levels. She is currently teaching Computer Science and Computer Applications, Montgomery College, Takoma Park Campus, of Maryland. She specializes in teaching artificial intelligence programming and systems and intelligent agents. In addition, she has served as a lead faculty involved on the 11-school Advanced Technology Centers Cyberwatch grant for the National Science Foundation since the inception of the program and sits on the planning committee for the Cybersecurity Information Systems Security Colloquium which helps define security training for the post-secondary level.

Dr. Boyce is recognized as a leader in and technical education training. She is an active professional who has written many articles and presents regularly at national and international technical education conferences. She has maintained a currency in technology through continuous consulting and writes on neurotechnology and ethics. She is certified in a Capability Maturity Management and Configuration Management from the Software Engineering Institute of Carnegie Mellon University and is an evaluator for the American Council on Education. Her current research interests include systems process improvement and the optimization of virtual environments.

13:00 – 14:00 **Lunch Keynote:** **Thomas Seubert**, North American Delivery Lead for Manufacturing Execution Systems, Tata Technologies, Novi, Michigan, USA

14:00 – 14:30 Networking Break

### 14:30 – 15:45 Industry Solutions II (Thursday) – Salon 6

Session Chair: Dr. Sushil K. Shetty, Lean Specialist II, Temple, Texas, USA

2:30 – 2:55 pm



## Dr. Ishtiaq Hussain

Manufacturing Lead  
General Motors Corporation  
World Headquarters  
Pontiac Michigan USA

Dr. Muhammad Ishtiaq Hussain is Adjunct Faculty in Lawrence Tech University. He earned his Doctoral of Engineering in Manufacturing Systems (DEMS) and Master of Engineering in Manufacturing Engineering (MEMS) Degrees in May 2008 from Lawrence Tech University, Michigan, USA. He also earned Master of Science in Quality from Eastern Michigan University in

2003. Dr. Hussain is a certified DFSS Black Belt from General Motors University and CMI from ASQ. He is currently working in General Motors Corporation Headquarter in Powertrain division in USA. Dr. Hussain has expert level knowledge in the following disciplines.

- Design of Experiment (DOE)
- Statistical Process Control (SPC)
- Geometric Dimensioning and Tolerances (GD&T)
- Design for Six Sigma (DFSS)
- Manufacturing Processes & Technology
- Gauging and Inspection (GR&R)
- Process Quality Analysis
- Machining Expert and MQL (green manufacturing) Expert

Dr. Hussain is a source of knowledge to all the GM machining plants. He has launched many New and major GM Powertrain engine programs. Dr. Hussain authored and published several papers in machining and measurement systems.

2:55 – 3:20 pm



**Sushil K. Shetty Ph.D.**  
Lean Specialist II  
Temple, Texas, USA

*Listen to your Employees as much as you listen to your Customer*

**Abstract:** Lean Six Sigma's foundation is all about understanding the 'Voice of the Customer', Needs of the Customer, etc. etc. As much as this is of key importance, I believe that when it comes to improvement of process, understanding and learning from an employee, directly working on the task, is the most important piece to solving the puzzle with reference to that customer need. Organizations that have succeeded doing continuous improvement have made this a key focal point of their journey. Studying and learning from an employee can reap tremendous benefits for the Continuous Improvement (CI) Process. During this session you will be introduced to a method and tool called EPLIT that is used to gather employee feedback regarding a Kaizen or a CI activity.

**Bio:** Sushil K. Shetty has completed his Doctorate in Industrial Engineering from the University of Alabama and is currently working as Lean Specialist II for Wilsonart in Temple, TX. He has 8+ years of manufacturing experience in a variety of industries, such as, automotive, apparel, consulting and engineering surfaces. He has always held roles that dealt with process improvement and process design. In all his roles he has worked with both, management at all levels and with people on the frontline to provide long lasting solutions to the organization while saving millions of dollars to the bottom line.

He is currently working with a group of researchers across 3 continents and 8 universities to study employee perception of Lean implementation in the healthcare industry.

3:20 – 3:45 pm



**Dr. Joseph M. Ogundu, MBB**

Principal – Emerald Global Consulting Inc.  
West Bloomfield, Michigan, USA

A seasoned lean and operations leader with extensive experience in leading change through application of lean business principles, six-sigma, operations management and business process excellence in the automotive, Oil and Gas, Energy and other manufacturing industries and non-manufacturing industries. A hands on executive with the leadership credentials in starting new organizations/departments, directing and managing activities of multiple and large scale operations. A change agent that understands the impact of change in an organization and its employees. Experienced in cost savings, cost control, budget control, profit and loss, quality deployment, strategy development and implementation, Quality systems and total quality management. Experienced coach and trainer of lean business principles, Lean Six-Sigma, continuous improvement, project and program management.

15:45 – 16:00 Break

**16:00 – 17:15 Industry Solutions III (Thursday) – Salon 6**

Session Chair: Foad Hosseinkhanli, Amor Health Services, Inc., Brownsville, Texas, USA

4:00 – 4:30 pm

**Gil Lugo**

**Certified RABQSA (Exemplar Global) QMS Lead Auditor**  
**Certified SCS FSC & PEFC CoC Lead Auditor**

**President**  
**Green and Sustainable Solutions, Inc.**  
**Fort Lauderdale Florida, USA**

**“Battle of the Improvement Methodologies”**

We’ve all heard people say “...if we hadn’t implemented LEAN we wouldn’t be in business today...” or my boss just got back from a conference and we have to do Six Sigma today or, I just read “The Goal” and we have to implement Theory of Constraints (TOC) right away. How about, “we have to be ISO certified because our biggest customer will stop buying from us if we’re not. With so much hype and emotion about these methodologies how do we choose the “BEST” one? Today we’ll explore these “Improvement Methodologies” to get the answer to the number one question clients ask. “Which methodology is really the best one?” And more importantly WHY is it the best one for my organization?

Gil Lugo, President of Green And Sustainable Solutions, Inc., will share with us his many years of experience training and implementing ISO 9001, ISO 14001, OHSAS 18001, LEAN, Six Sigma and Theory of Constraints (TOC) during a presentation titled “Battle of the Improvement Methodologies”. After many years of successfully implementing all these methodologies in all types of organizations he felt that there was still something missing. Mr. Lugo will provide many examples illustrating that by themselves each methodology works but the road to long term sustainable success can be harder and more complicated depending on how, and when, each methodology is implemented. Join us for this informative and revealing presentation which will help you determine which methodology is right for your organization.

**Bio:** GIL LUGO is a dynamic and articulate individual with over thirty five years of extensive and diversified experience helping companies reach exponential profitable growth by training and deploying methodologies such as Lean, ISO based Management Systems, Six Sigma and Theory of Constraints. Mr. Lugo specializes in “fixing broken companies and making good ones even better”. An English-Spanish Bi-Lingual who is an accomplished Auditor, Leader, Mentor and Trainer. Mr. Lugo has set up, owned and operated companies in various countries. In addition Mr. Lugo was employed by the National Institute of Standards and Technology (NIST) sponsored program known as The Florida MEP where he was awarded “The Above and Beyond Award for Outstanding Contribution to the Vitality and Prosperity of American Manufacturing”.

Mr. Lugo has a Bachelor of Science Degree in Mechanical Engineering, is an Exemplar Global (RABQSA) Certified Quality Management System Lead Auditor, an SCS Global Lead Auditor for FSC, PEFC & SFI CoC. He is an Expert Trainer and Implementer of LEAN Enterprise, TOC “Theory of Constraints”, Six Sigma and ISO based Management Systems. Additionally, Mr. Lugo was the General Manager and Co-developer of ISO Training and Auditing Curriculum for an Accredited ISO Registrar. Mr. Lugo is also certified by Exemplar Global (RABQSA) and to teach the ISO 9001, ISO 14001 and OHSAS 18001 Lead Auditor Courses.

Mr. Lugo has published articles in numerous Trade Journals, is an Adjunct Professor at Palm Beach State College and has been a guest lecturer at: FAU School of Engineering; Broward College; Construction Standards Institute; US Small Business Administration; the South Florida Manufacturers Association (SFMA) and the American Society for Quality (ASQ) to name a few.

In addition Mr. Lugo is the Chairman of the Society of Manufacturing Engineers (SME) Chapter 150, the past Chairman of the American Society for Quality (ASQ) Section 1515, on the Industrial Advisory Committee for the Florida Advanced Technology Education and a member to the US TAG (Technical Advisory Group) to ISO/TC 176 (Quality Management) & TC 207 (Environmental Management).

4:30 – 5:00 pm

**Foad Hosseinkhanli**

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

**Quality Assurance, Performance and Business Improvement: A Lean Six Sigma Approach**

Mr. Hosseinkhanli is Director of Quality Assurance, Performance and Business Improvement 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. 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. Certified Business Analyst from International profit Association in Buffalo Grove IL USA. Certified Six Sigma Green and Black Belt from Institute of Industrial Engineers.

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.

5:00 – 5:30 pm



## Ahmed Al-Jabr, CMBB

President, Saudi IEOM Society  
Dhahran, Saudi Arabia

### “Challenges and Opportunities of Lean and Six Sigma for Saudi Industries”

Ahmed Aljabr is a president of IEOM Society – Saudi Arabian Chapter, as quality engineer and Six Sigma Mater Blackbelt Certified, his experience span most industries and operational areas including working in different successful project, such as working win the International Automotive Components (IAC) to install a solar photovoltaic panel system within their facility, *Whitlam Label Company* (WLC) to layout the travel distance to minimize the non-value added transportation time on their factory, and Shiloh Industries Inc. through a Six Sigma project with an annual cost savings of over \$500,000, figured how the process was mapped, characterized, analyzed, improved and controlled, and explore which tools were used to quantify the amount of variation

within the process as well as the cost of that variation.

He is an expert in the areas of Lean Six Sigma, Continuous Improvement, Quality Management, Lean Manufacturing, Operational Excellence, Optimization, Strategy, Project Management, Supply Chain Management, Public Relation, and Global Leadership. He is an active member of SAE, IIE, ASQ, ASME, LEI, IEOM, and SME. He was a president of the Saudi Student Union at LTU, President of Arab American Association of Engineers and Architects (AAAAEA), he received an Exemplary Leadership Award, Best leader of the year from Lawrence Technological University, and Outstanding Leadership Award from Saudi Arabian Cultural Mission, Saudi Embassy at Washington D.C. He has BS in Mechanical Engineering, MS in Manufacturing System Engineering, MS in Engineering Management, and he is PhD Candidate Manufacturing System Engineering at Lawrence Technological University.

## Upcoming IEOM Annual Conferences

IEOM Kuala Lumpur, March 8-10, 2016

IEOM Istanbul, April 11-13, 2017

IEOM Singapore, March 2018

IEOM Dubai, March 2019

IEOM Bali, March 2020

## Upcoming Regional IEOM Conferences

IEOM Johannesburg (South Africa), September 2016

IEOM Rio (Brazil), September 2017

IEOM Rabat (Morocco), September 2018

IEOM Tokyo (Japan), September 2019

IEOM Rome, (Italy), September 2020

## International Conference on Operations Excellence and Service Engineering, Orlando, Florida, USA, September 10-11, 2015

### Workshop on Entrepreneurship

September 11, 2015 (Friday)

Rosen Plaza Hotel, Orlando, Salon 5

Time: 4:00 – 7:00 pm

[http://iieom.org/icmoe2015/?page\\_id=540](http://iieom.org/icmoe2015/?page_id=540)

Entrepreneurship workshop certificate will be provided, and CEU is available

**Register Here:** <http://iieom.org/ieom/ieom-society-payment/>

### Entrepreneurial Mindset: Opportunity Recognition and the Value Proposition

The ability to recognize an opportunity is a key ingredient in developing an entrepreneurial mindset. Engaging the customer is a significant component of this process. An exploratory seminar and discussion will be held on this subject at the Orlando IEOM Conference on Friday, September 11. You are invite to attend and participate in "painstorming" exercises that will focus on fostering opportunity recognition and engaging the customer. This dynamic process will lead to developing and delivering meaningful "value proposition" for the customer.

### SPEAKER



#### Professor Donald M. Reimer

Director of Entrepreneurial Programs

College of Engineering

Lawrence Tech in Southfield, Michigan, USA

Donald M. Reimer is currently a fulltime senior lecturer on entrepreneurship and serves as the Director of Entrepreneurial Programs in College of Engineering at Lawrence Tech in Southfield, Michigan. He coordinates the Certificate of Entrepreneurial Engineering Skills. Mr. Reimer holds a Bachelor of Science degree in Industrial Management from Lawrence Technological University and a Master of Arts degree in Political Science from University of Detroit/Mercy. He is a Certified Management Consultant with over 35 years of experience in working with closely-held businesses. He has taught courses in entrepreneurship, strategic management, corporate entrepreneurship and innovation for engineers. Mr. Reimer is a member of the Lawrence Tech Kern Campus Committee, Coordinator of the Lawrence Tech Innovation Encounter. He is faculty Advisor of the Collegiate Entrepreneurs' Organization. Mr. Reimer serves as a Kern Fellow of The Kern Family Foundation, Co-Direct of the Coleman Fellows Program, member of the National Collegiate Entrepreneurs' Organization Faculty Advisory Council and is a member of the American Society of Engineering Education.

Mr. Reimer has served as an adjunct faculty member at Lawrence Technological University for over twenty-years. He has operated his own consulting company – The Small Business Strategy Group for 23 years. He published numerous articles on small business, entrepreneurship and strategic thinking. Mr. Reimer conducted workshops and seminars for trade associations, chamber of commerce organizations and private companies. He has received several awards and recognition by local, state and federal agencies for his work in entrepreneurship and minority business development. Mr. Reimer served as member of the Minority Economic Development Committee of New Detroit. Mr. Reimer is member of the Small Business Advisory Council of the Detroit Regional Chamber of Commerce. Mr. Reimer is a member of Advisory Board of the Milwaukee Junction Small Business Assistance Center. He is also a member of the Applied Innovation Alliance. Mr. Reimer serves as a KEEN Fellow for The Kern Family Foundation and is a member of United States Association of Small Business and Entrepreneurship.

Please contact [conference@iieom.org](mailto:conference@iieom.org) for details.

## International Conference on Operations Excellence and Service Engineering, Orlando, Florida, USA, September 10-11, 2015

### Workshop on Geometric Dimensioning and Tolerancing (GD&T)

September 10, 2015 (Thursday)  
 Rosen Plaza Hotel, Orlando, Salon 8

Time: 4:00 – 7:00 pm

[http://iieom.org/icmoe2015/?page\\_id=527](http://iieom.org/icmoe2015/?page_id=527)

GD&T Training certificate will be provided, and CEU is available

**Register Here:** <http://iieom.org/ieom/ieom-society-payment/>

#### Training Topic:

The training will provide a thorough understanding and working knowledge of the Geometric Dimensioning & Tolerancing (GD&T) which is used on engineering drawings and solid models for describing nominal geometry and its allowable tolerances in product design, manufacturing, assemblies and inspections. It will also cover the different terminologies, symbols, rules, and tolerance stack-up in the product development processes. ASME Y14.5-2009 standard will be used.

#### Training Outline:

- Symbols, rules and principles instituted by the ASME Y14.5-2009 Standard
- Fundamentals of GD&T
- Tolerance Stack-Up Analysis
- Statistical Tolerancing

#### Major Concepts:

- |                           |                                       |                 |
|---------------------------|---------------------------------------|-----------------|
| - Angularity              | - Flatness                            | - Profile       |
| - Circular Runout         | - Functional Gages                    | - Straightness  |
| - Circularity (Roundness) | - Material Conditions (MMC, LMC, RFS) | - Symmetry      |
| - Concentricity           | - Mating Part Tolerancing             | - Total Runout  |
| - Cylindricity            | - Parallelism                         | - True Position |
| - Datum Features          | - Perpendicularity (Squareness)       |                 |

**Speaker:** Dr. Ahad Ali, Associate Professor and Director of BSIE & MSIE Programs at LTU

Dr. Ahad Ali is an Associate Professor, and Director of Bachelor or Science in Industrial Engineering & Master of Science in Industrial Engineering in the A. Leon Linton Department of Mechanical Engineering at the Lawrence Technological University, Southfield, Michigan, USA. He earned B.S. in Mechanical Engineering from Bangladesh Institute of Technology, Khulna, Masters in Systems and Engineering Management from Nanyang Technological University, Singapore and PhD in Industrial Engineering from University of Wisconsin-Milwaukee. Dr. Ali was Assistant Professor in Industrial Engineering at the University of Puerto Rico - Mayaguez, Visiting Assistant Professor in Mechanical, Industrial and Manufacturing Engineering at the University of Toledo, and Lecturer in Mechanical Engineering at the Bangladesh Institute of Technology, Khulna. He has published numerous journal and conference papers. Dr Ali has completed research projects with Chrysler, Ford, New Center Stamping, Whelan Co., Progressive Metal Manufacturing Company, Whitlam Label Company, DTE Energy, Delphi Automotive System, GE Medical Systems, Harley-Davidson Motor Company, International Truck and Engine Corporation (ITEC), National/Panasonic Electronics, and Rockwell Automation. His research interests include quality, reliability, design and manufacturing, simulation, optimization, scheduling, PLM, lean and supply chain. He is member of IIE, INFORMS, SME and IEEE.

Dr. Ali has initiated Smart Manufacturing and Lean Systems Research Group. He formerly was president of the IIE Lean Division. Dr. Ali has been chair of the IIE Lean Student Paper Competition since 2007. He is one of the founder of the International Conference on Industrial Engineering and Operations Management and IEOM Society.

Please contact [conference@iieom.org](mailto:conference@iieom.org) for details.

## Competitions

### Undergraduate Student Paper Competition

**Sponsored by SIEMENS**

The IEOM UNDERGRADUATE Student Paper Competition sponsored by SIEMENS will recognize outstanding papers in the field of industrial engineering, manufacturing engineering, systems engineering, operations research, engineering management and operations management written by student(s). Selected papers will be considered for the competition and must be presented at the 2015 IEOM Orlando Conference at Rosen Plaza Hotel on September 10, 2015. The paper will be judged based on the technical content and presentation. Winners will receive certificate and monetary award based on the sponsorship. The winning awards will be given at the 2015 IEOM Orlando Conference award event on September 11, 2015. A group of academics / professionals will serve as judges. Scoring rubrics will be used for both parts of the judging. Award certificates and cash prizes will be given for the best student papers (1st place – \$500, 2nd place – \$300, and 3rd place – \$200).

### Graduate Student Paper Competition

**Sponsored by EATON**

The IEOM GRADUATE Student Paper Competition sponsored by Eaton will recognize outstanding papers in the field of industrial engineering, manufacturing engineering, service engineering, systems engineering, operations research, engineering management and operations management written by student(s). Selected papers will be considered for the competition and must be presented at the 2015 IEOM Orlando Conference at Rosen Plaza Hotel on September 10, 2015. The paper will be judged based on the technical content and presentation. Winners will receive certificate and monetary award based on the sponsorship. The winning awards will be given at the 2015 IEOM Orlando Conference award event on September 11, 2015. Award certificates and cash prizes will be given for the best student papers (1st place – \$500, 2nd place – \$300, and 3rd place – \$200).

### Undergraduate Research Presentation Competition

The IEOM Undergraduate Research Presentation Competition will recognize outstanding research presentation in the field of industrial engineering and operations management presented by student(s). Students can submit abstract only and present at the IEOM Orlando Conference on September 10, 2015. The presentation will be judged based on the presentation only. Winners will receive certificate and monetary award based on the sponsorship. The winning awards will be given at the 2015 IEOM Orlando Conference award event on September 11, 2015. Award certificates and cash prizes will be given for the best student papers. Click here for details.

### Capstone Student Design Project Presentation Competition

The IEOM Capstone Student Design Project / Final Year Project (FYP) Presentation Competition will recognize outstanding design project in the field of industrial engineering, manufacturing engineering, systems engineering, engineering management and operations management prepared by student team. Capstone student design project team can showcase their engineering design project by submitting a summary of the project as an abstract and present it. It should highlight problem solving, creative thinking, innovation, project planning, and teamwork through a challenging design and build project. Each submission must be presented at the 2015 IEOM Orlando Conference at Rosen Plaza Hotel during September 10-11, 2015. The presentations will be judged based on the technical content and presentation. Winners will receive award certificates. The winning awards will be given at the 2015 IEOM Orlando conference award event on September 11, 2015. Award certificates and cash prizes will be given for the best senior design project presenters.

### High School STEM Project Presentation Competition

The IEOM High School STEM Project Presentation Competition recognizes the outstanding students for their accomplishment in Science, Technology, Engineering, and Math (STEM) for their innovative and creative projects. High school students can submit individual and/or team research projects in the field of Science, Technology, Engineering, Mathematics or similar areas. Each submission can provide a summary of the STEM project. The projects will be judged based on the technical content and presentation. Winners will receive award certificates. The winning awards will be given at the 2015 IEOM Orlando conference award event on September 11, 2015 at Rosen Plaza Hotel. Award certificates and cash prizes will be given for the best high school STEM project presenters.

### Student Poster Competition

The IEOM Best Poster Competition Awards recognize the best poster presentations at the 2015 IEOM Orlando Conference. All poster presentations are to be reviewed by IEOM members at the event for IEOM Members Choice Awards. Three awards will be given for the first, second and third places. Award certificates and cash prizes will be given for the best poster presenters.



# Conference Technical Program

**September 10, 2015 (Thursday)**

**08:00 – 09:15 Global Engineering Education I - Salon 5**

Session Chair: Dr. Shahram Taj, Lawrence Technological University, Michigan, USA

**8:00 – 8:25 am Thursday**

**Dr. Laura M. Stanley**

Associate Professor, Mechanical & Industrial Engineering Department  
Montana State University, Bozeman, MT, USA

“Addressing the Need for Effective Communications across the Engineering Curricula – A Case Study” [ID 103]

**8:25 -8:50 am Thursday**

**Dr. Nadia Bhuiyan**

Professor, Department of Mechanical and Industrial Engineering  
Associate Director, Concordia Institute of Aerospace Design and Innovation (CIADI)  
Concordia University, Montreal, Quebec, Canada

**8:50 – 9:15 am Thursday**

**Dr. Shahram Taj**

Professor and Chair, Department of Management and Marketing  
College of Management, Lawrence Technological University, Michigan, USA

**8:00 – 9:15 am Thursday**

**SALON 6**

**Operations Research**

Session Chair: Vyacheslav Kalashnikov, Tecnologico de Monterrey (ITESM), Monterrey, Nuevo Leon, Mexico

**A Benders Based Rolling Horizon Algorithm for a Dynamic Facility Location Problem**

Mohammad Marufuzzaman and Ridvan Gedik, Mississippi State University, Starkville, MS, United States

**Application of Analytic Hierarchy Process Techniques in Multi-Criteria Decision Making Problems**

Richard Hannis, Shahryar Sorooshian and Shariman Bin Mustafa, University of Malaysia Pahang, Kuantan, Pahang, Malaysia

**Cold Chain: An interaction analysis of Performance Attributes using Graph Theory**

Rohit Joshi, Indian Institute of Management, Shillong, Meghalaya, India

D. K. Banwet, Department of Management Studies, Indian Institute of Technology - Delhi, India

**Efficient Metaheuristics for Multi-stage No-Wait Flexible Flowshop Scheduling Problem**

Mageed Ghaleb and Ibrahim Alharkan, King Saud University, Riyadh, Saudi Arabia

**An Efficient Technique of Computing Pressure on Blades of Hydraulic Machines**

Vyacheslav Kalashnikov, Tecnologico de Monterrey (ITESM), Campus MonterreyMonterrey, Nuevo Leon, Mexico

Nataliya Kalashnykova, Universidad Autonoma de Nuevo Leon San Nicolas de los Garza, Nuevo Leon, Mexico

**8:00 – 9:15 am Thursday**

**SALON 7**

**Undergraduate Student Paper Competition**

Session Chair: Hayder Zghair, Lawrence Technological University and Kettering University, Michigan, USA

**Application of the Restricted Boltzmann Machine for the planning of maintenance in databases**

Eldon Caldwell Marin, Andrés Li Feng, Karen Molina Rivera and María Amalia Sequeira Morera, University of Costa Rica, San José, Costa Rica

**Big Data Analysis and Storage**

Khalid Adam Ismail Hammad, Mohammed Adam Ibrahim Fakharaldien, Jasni Mohamed Zain and Mazlina Abdul Majid, University Malaysia Pahang, Kuantan, Malaysia

**Some implications of the use of renewable energy in production scheduling**

Eldon Caldwell Marin, Jimena Rojas F, Carolina Mora O, Melissa Merino C and Ana Laura Viquez Q., University of Costa Rica, San José, Costa Rica

**Increasing Customer Service Level in Distribution Operations**

Ayde Yuriko Venegas, Universidad de Monterrey, San Pedro Garza García, N.L., Mexico

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**8:00 – 9:15 am Thursday****SALON 8****Operations Management**

Session Chair: Dr. Mohammad Marufuzzaman, Mississippi State University, United States

**Lean Manufacturing and Transformational Leadership**

Syed Masood, International Islamic University, Islamabad, Pakistan

**A Critical Evaluation of Climate-Related Risks Associated With Oil and Gas Industry in Libya**

Tawfik Elmhedi, The Libyan Academy, Tripoli, Libya

**A Continuum Approximation Model for One-Way Electric Vehicle Sharing**

Xiaopeng Li, Mississippi State University, Starkville, MS, United States

**Optimization Techniques in Civil Works and Electrical Contracting**

Basel Alsayyed Ahmad, Amani Alkhodari, Khaled ElSayed and Mansoor Al Jabri, UAEU, Al Ain, United Arab Emirates

**Designing a Multimodal Transportation Network under Biomass Supply Uncertainty**

Mohammad Marufuzzaman, Sushil Poudel, Linkan Bian and Hugh Medal, Mississippi State University, Starkville, MS, United States

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**8:00 – 9:15 am Thursday****SALON 9****Lean and Six Sigma**

Session Chair: Amar Sahay, QMS Global LLC, Sandy, UT, United States

**Application of Six Sigma in Service Contracting Company**

Ateekh Ur Rehman, King Saud University, Riyadh, Saudi Arabia

**Identification of Retention Time & Information Delays Applying Value Stream Mapping Technique in Apparel Manufacturing Organization**

Azim Mohammad, Advance Engineering Management (AEM), Bangladesh University of Engineering Technology (BUET)

Shibbir Ahmad, Dhaka University of Engineering and Technology (DUET), Gazipur, Bangladesh

Mohammad Iqbal, Shah Jalal University of Science and Technology (SUST), Sylhet, Bangladesh

**Hoshin Kanri: Harnessing the Collective Thinking of All Employees to Deploy Policies that Operationalize Strategic Goals**

Dennis Gawlik, Pinchot University - Bainbridge Graduate Institute, Bainbridge Island, WA, United States

Karyn Ross, Naperville, IL, United States

**Six Sigma Process Capability Analysis for Normal and Non- Normal: Methods, Measurements, Applications and Computer Analysis\_ Case Studies**

Amar Sahay, QMS Global LLC, Sandy, UT, United States

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**8:00 – 9:15 am Thursday****SALON 10****Supply Chain Management**

Session Chair: Sara Elzarka, Arab Academy for Science, Technology & Maritime Transport, Alexandria, Egypt

**Allais Paradox: Outsourcing Decision Making**

Samson Oludapo, University Malaysia Pahang, Gambang, Kuantan, Malaysia

**Impact of Green Supply Chain Management Attributes on Supply Chain Performance: Measurement Instrument Validity and Reliability Verification**

Hansa Lysander Manohar and Ganesh Kumar, College of Engineering Guindy, Anna University, Chennai, Tamil Nadu, India

**Remanufacturing and Its Effect on Customer Satisfaction Level**

Ahmed Gamal, Arab Academy for Science & Maritime Technology, Alexandria, Egypt

**Hospital Logistics, a Tool for an Increased Productivity: Hospital Universitario Mayor (Mederi) Case**

Valeria Mendoza Cortes, Santiago Moros Portilla, Eliana Acuña Cardenas, Victor Garcia Urdaneta and Juan Farfan, Universidad Del Rosario, Bogota, Colombia

**Investigating the Impact of Suppliers Relationship Management on Firms' Performance: A Multiple Case Study Approach on Manufacturing Companies in Egypt**

Sara Elzarka, Lobna Hafez, Maram Roushdy, Sarah Hesham, and Merihan Mohamed, Arab Academy for Science, Technology & Maritime Transport, Alexandria, Egypt

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**9:30 – 10:00 Welcome Address**

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**10:00 – 11:00 Opening Keynote: Dr. Pamela McCauley**, Professor, Department of Industrial Engineering and Management Systems and Director, Human Factors in Disaster Management Research Team, University of Central Florida, USA – **Ballroom C**

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**11:00 – 11:30 Networking Break**

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**11:30 – 12:45 Global Engineering Education II (Thursday) – SALON 5**

Session Chair: Dr. Kit Fai Pun, The University of the West Indies

**11:30 – 11:55 am Thursday****Dr. Kit Fai Pun**

Professor of Industrial Engineering

Campus Coordinator and Chair, Graduate Studies & Research, School for Graduate Studies & Research

Department of Mechanical and Manufacturing Engineering, Faculty of Engineering

The University of the West Indies, St Augustine Campus, Trinidad and Tobago

**“Exploring Industrial Engineering and Education:  
From Illustrated Cases to Best Practice of Graduate Research Supervision”**

**11:55 am – 12:20 pm Thursday****Dr. K.C. Vora, Vice President SAEINDIA**

Member, SAE International Engineering Meetings Board

Sr. Dy. Director & Head, ARAI Academy

The Automotive Research Association of India

Research Institution of the Automotive Industry

Pune, India

**“Excellence in Skill Development through Engineering Education”**

**12:20 – 12:45 pm Thursday****Rumi Tobita**

Ashikaga Institute of Technology

Ashikaga, Tochigi, Japan

**“Developing an Effective ESP Course for Engineering Students integrating Analysis with NIRS” [ID 203]**

**11:30 – 12:45 Industry Solutions I (Thursday) – SALON 6**

Session Chair: Dr. Jeanann Boyce, Montgomery College, Maryland

**Nikhil K. Joshi, CEO**

SNic India

Vijayanagar, Bangalore, India

**Saurabh Gupta**

Head, Process Excellence

ILTD, ITC, India

**“Successful Lean Six Sigma Deployment in Non-Traditional Setting of Agri-Business”**

**Dr. Jeanann Boyce**

Professor, Business, Economics, Accounting

Computer Applications and Paralegal Studies (BEACAPS)

Montgomery College, Takoma Park / Silver Spring Campus, Takoma Park, MD

**“Sustainable Technologies: The Impact Neuromorphic Chips on the Future”**

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**11:30 am – 12:45 pm Thursday****SALON 7****Undergraduate Student Paper Competition**

Session Chair: Hayder Zghair, Lawrence Technological University and Kettering University, Michigan, USA

**Traceable Petri Nets for the Supply of Multiple Production Lines with Variable Waste**

Eldon Caldwell Marin, André Mora Barreira, Roberto Truque Salto, Andrés Mazón Arce and Luis Ricardo García Rodríguez, University of Costa Rica, San José, Costa Rica

**Characterization of Alzheimer's disease: An Operations Research Approach**

Yazeli Cruz, Yaritza Santiago, Valerie Gonzalez, Clara Isaza and Mauricio Cabrera, Mayaguez, Puerto Rico, United States

**Improving a Particle Swarm Optimization model to solve assignment problems in an industrial environment**

Javier André, Nathan Suchar, Luis Jiménez, Karol Esquivel and Eldon Caldwell Marin, University of Costa Rica, San Jose, Costa Rica

**An integrated model of cellular manufacturing and supplier selection considering product quality**

Iraj Mahdavi and Habib Heydari, Mazandaran University of Science and Technology, Babol, Mazandaran Province, Iran  
Mohammad Mahdi Paydar, Babol University of Technology, Babol, Mazandaran Province, Iran

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**11:30 am – 12:45 pm Thursday****SALON 8****Engineering Education**

Session Chair: Basel Alsayyed Ahmad, UAEU, Al Ain, Abu Dhabi, United Arab Emirates

**Important Soft Skills for Engineers to Succeed in a Working Environment**

Dyah Hening and David Koonce, Ohio University, Athens, Ohio, United States

**Impact of Learning by Objectives in Design & Manufacturing Courses**

Basel Alsayyed Ahmad, UAEU, Al Ain, Abu Dhabi, United Arab Emirates

**Enhancing the Engineering Ethics Curriculum by Analyzing Students' and Faculty's Perceptions**

Brittney Jimerson, North Carolina A&T State University, USA

Eui Park, North Carolina A&T State University, USA

**Capacity Building for Sustainable World: A Study on political practices and effect on world economy**

M.A. Mannan, IIUC, Bangladesh

**Implementation of OBE in a MoT Program: Lesson Learned**

Alina Shamsuddin, Chee-Ming Chan and Azeanita Suratkon, Universiti Tun Hussein Onn Malaysia, Malaysia



**11:30 am – 12:45 pm Thursday****SALON 9****Lean and Six Sigma**

Session Chair: Fogliatto, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil

**Lean six sigma and innovation: A theoretical Frame work**

Adel A. Alharthi, Advanced Manufacturing and Enterprise Engineering, Brunel University, Uxbridge, Middlesex, UK

Tariq Aziz, Department of Industrial Engineering, King Saud University, Riyadh, KSA

**Managing and Improving Quality- Quality Costs and Statistical Process Control**

Amar Sahay, QMS Global LLC, Sandy, UT, United States

**Impact of Stress on Employee Performance of It Projects In Pakistan**

Maqadus Iqbal, Project Management, SZABIST, Islamabad, Pakistan

**Gaps between psychophysical demands and perceived workload – a framework for lean production system**

Carlos Ernani Fries, Guilherme Luz Tortorella, Marcelo Pereira da Silva, Fernando Gonçalves Amaral and Flávio Sanson Fogliatto, Federal University of Rio Grande do Sul, Porto Alegre, RS, Brazil

**11:30 am – 12:45 pm Thursday****SALON 10****Supply Chain Management**

Session Chair: Srikant Raghavan, Lawrence Technological University, Southfield, MI, United States

**Multi-Objective Non-Permutation Flowshop with Dependent Setup times and Missing Jobs**

Shaya Sheikh, Towson, Maryland, United States

Mohammad Komaki, Cleveland, Ohio, United States

Ehsan Teymourian, Babol, Mazandaran, Iran

Shaya Sheikh, Management Science Department, New York Institute of Technology, New York, NY

Mohammad Komaki, Electrical Engineering and Computer Science Department, Case Western Reserve University, Cleveland, USA

Ehsan Teymourian, Department of Industrial Engineering, Mazandaran University of Science and Technology, Babol, Iran

Behnam Malakooti, Electrical Engineering and Computer Science Department, Case Western Reserve University, Cleveland, USA

**Investigating the Impact of Supply Chain Practices on the Financial Performance of the Most Active Listed Firms in Egypt**

Islam El-Nakib and Amr Youssef, Arab Academy for Science, Technology and Maritime Transport, Alexandria, Egypt

**Application of the Methodology Deflection in Humanitarian Logistics: A Supply approach from Agrifood Chains**

Fernando Salazar, Universidad del Rosario, Bogotá D.C., Colombia

Jordi Poch, Universidad de Girona, Girona, Catalunya, Spain

Judith Cavazos, UPAEP, Puebla, Puebla, Mexico

Loecelia Ruvalcaba, Universidad Autónoma de Aguascalientes Aguascalientes, Aguascalientes, Mexico

**Harnessing the Technology of Cloud Computing with Supply Chain Management**

Srikant Raghavan, Lawrence Technological University, Southfield, MI, United States

Galia Novakova, Sofia University, Sofia, Bulgaria

Shahram Taj, Lawrence Technological University, Southfield, MI, United States

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13:00 – 14:00 **Lunch Keynote: Thomas Seubert**, North American Delivery Lead for Manufacturing Execution Systems (MES), Tata Technologies, Novi, Michigan, USA

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14:00 – 14:30 Networking Break

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**14:30 – 15:45 Global Engineering Education III (Thursday) – SALON 5**

Session Chair: Dr. Jose R. Deliz, Universidad Turabo, Puerto Rico

**2:30 – 2:55 pm Thursday****Dr. Charles Mbohwa**

Professor and Vice-Dean Postgraduate Studies, Research and Innovation  
Faculty of Engineering and the Built Environment (FEBE)  
University of Johannesburg's (UJ), South Africa

**2:55 – 3:20 pm Thursday****Dr. Shannon Flumerfelt**

Associate Professor, Educational Leadership  
Director of Lean Thinking for Schools, Pawley Learning Institute  
Oakland University, Rochester, MI 48309, USA

**3:20 – 3:45 pm Thursday****Dr. Jose R. Deliz**

Associate Dean, School of Engineering  
Professor and Director of Industrial and Management Engineering  
Universidad Turabo, Puerto Rico

**Jacqueline Mullen**

Vice-chancellor Sponsored Research and Programs  
Universidad del Turabo, Ana G. Mendez University System, Inc., Puerto Rico

**"How to achieve academic excellence through assessment in IE Education" [ID 286]**

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**14:30 – 15:45 Industry Solutions II (Thursday) – SALON 6**

Session Chair: Dr. Sushil K. Shetty, Lean Specialist II, Temple, Texas, USA

**2:30 – 2:55 pm Thursday****Charles Bradley**

Director HFC Reliability Engineering and Sourcing Standardization  
Charter Communications, Greenwood Village, Colorado, USA

**2:55 – 3:20 pm Thursday****Dr. Sushil K. Shetty**

Lean Specialist II, Temple, Texas, USA

**"Listen to your Employees as much as you listen to your Customer"**

**3:20 – 3:45 pm Thursday****Dr. Joseph M. Ogundu, MBB**

Principal – Emerald Global Consulting Inc.  
West Bloomfield, Michigan, USA

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**2:30 – 3:45 pm Thursday****SALON 7****Undergraduate Research Competition**

Session Chair: Hayder Zghair, Lawrence Technological University and Kettering University, Michigan, USA

**Domestic Buildings Thermal Demand from Renewable Energy Sources-A Case Study of UK**

Majid Baseer, Sarhad University of Science and Information Technology, Peshawar, Pakistan  
Ghulam Qadir, Loughborough University, United Kingdom  
M. Arif, Sarhad University of Science and information Technology, Peshawar, Pakistan

**Design and fabrication of automated loading trolley for missile and canister**

Nazishuddin Quadri Syed College of Engineering Pune, Maharashtra, India  
Mohan Khond, College of Engineering Pune, Maharashtra, India

**Improvement of Productivity Rate of JIT, Creams, Liquids, Lotions Department of Avon Products Manufacturing Inc.**

Ezrha C. Godilano and Rachel C. Villanueva, Department of Industrial Engineering, Malayan Colleges Laguna, Cabuyao City, Laguna, Philippines

**One Right Way to Make Use of Energy In Accordance With the Second Law of Thermodynamics: The “Technical Polo” Of Engineering Faculty of Catania University.**

Francesco Patania, Department of Industrial Engineering of Catania University, Catania, Italy

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**2:30 – 3:45 pm Thursday****SALON 8****Engineering Education**

Session Chair: Eui Park, North Carolina A&T State University, USA

**Roadmap for Stimulating the Innovative Use of Technology in Higher Education**

Nasser Alaeddine, Hamid Parsaei and Mohamed Ismail, Texas A&M University at Qatar, Qatar

**An Innovation Model with Representative Variables of Marketing and Trading**

Javier D. Fernández-Ledesma and Santiago Duque, Department of Industrial Engineering, University Pontificia Bolivariana Medellín, Antioquia, Colombia

**An Emerging STEM Era in the Middle East**

Hamid R. Parsaei, Nimir Elbashirb, and Nasser Alaeddinec, Texas A&M University at Qatar, Education City of Qatar Foundation, Doha, Qatar

**Human Factors System Approach to Identify Factors that Affect the Adoption of Ergonomic Technology in Healthcare**

Brittney Jimerson, North Carolina A&T State University, USA  
Eui Park, North Carolina A&T State University, USA  
Steven Jiang, North Carolina A&T State University, USA

**Reviewing the Grades, Activities and Assessment in an Engineering Technology Course with relation to the Learning Styles**

Alina Shamsuddin, Chee-Ming Chan and Azeanita Suratkon, Universiti Tun Hussein Onn Malaysia, Johor, Malaysia

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**2:30 – 3:45 pm Thursday****SALON 9****Quality and Reliability**

Session Chair: Shih-Wen Liu, National Taiwan University of Science and Technology, Taipei, Taiwan

**Insights of Quality Management Concepts in the Supply Chain**

Cassandra Elrod, Elizabeth Cudney and Cui Zou, Missouri University of Science and Technology, Rolla, MO United States

**A SVM-based Quality Assessment using Thermal Image DATA in Sealer Dispensing Process**

Moise Busogi, Namhun Kim and YeongGwang Oh, UNIST, Ulsan, Korea

**A Bayesian Approach to Early Reliability Predicting of Evolutionary Products**

Mahtab Jahanbani Fard and Sattar Ameri, Wayne State University, Detroit, Michigan, USA  
Ali Zeinal Hamadani, Isfahan University of Technology, Isfahan, Iran

**Developing a new variables sampling plan for products with multiple quality characteristics based on process yield**

Shih-Wen Liu, National Taiwan University of Science and Technology, Taipei, Taiwan  
Chien-Wei Wu, National Tsing Hua University, Hsinchu, Taiwan

**2:30 – 3:45 pm Thursday****SALON 10****Supply Chain and Logistics**

Session Chair: Hao Fu, UC Berkeley, CA, United States

**The Impact of Managing Medicine Storage and Distribution Chain on Medicine Shortage: A Simulation Model for Managing Medicine Storage and Distribution in the Egyptian Market**

Ahmed Kassem, Arab Academy for Science, Technology and Maritime Transport, Alexandria, Loran, Egypt

**The Investigation of Purchasing Process and Supplier Development Practices: Multiple Case Studies on Food Processing Sector in Alexandria, Egypt**

Sara Elzarka and Lobna Hafez, Arab Academy for Science, Technology &amp; Maritime Transport, Alexandria, Egypt

**A Risk Adverse Model for Hazardous Material Transportation**

Jose Santivanez, Universidad del Turabo, Gurabo, Puerto Rico, United States

**Anticipatory Shipping: A Commercial Application of Pre-positioning with Stochastic Programming**

Hao Fu, UC Berkeley, CA, United States

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15:45 – 16:00 Break

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**16:00 – 17:15 Global Engineering Education IV (Thursday) – SALON 5**

Session Chair: Dr. Hamid Parsaei, Texas A&amp;M University (College Station)/ Qatar

**4:00 – 4:30 pm Thursday****Dr. Hamid Parsaei**

Professor of Industrial and Systems Engineering

Texas A&amp;M University (College Station)

and

Professor of Mechanical Engineering and Director of Academic Outreach

Texas A&amp;M University Qatar

**4:30 – 5:00 pm Thursday****Dr. Christoph Wunck**

Professor, Business Computing Systems, Industrial Engineering

College of Management, Information, Technology

Jade University, Wilhelmshaven, Germany

“Raising intercultural awareness of engineering students – Strategies, challenges and lessons learned from six years of German- American Engineering Summer Programs”

**5:00 – 5:30 pm Thursday****Dr. Bidyut Kumar Bhattacharyya**

Professor, Mechanical Engineering Department

Director, School of Safety &amp; Occupational Health Engineering

Indian Institute of Engineering Science &amp; Technology, Shibpur, West Bengal, India

“Globalizing Engineering and Management Education in India”

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## 16:00 – 17:15 Industry Solutions III (Thursday) – SALON 6

Session Chair: Foad Hosseinkhanli, Amor Health Services, Inc., Brownsville, Texas, USA

## 4:00 – 4:30 pm Thursday

**Gil Lugo**, Certified **RABQSA** (Exemplar Global)  
QMS Lead Auditor  
Certified SCS FSC & PEFC CoC Lead Auditor  
President, Green and Sustainable Solutions, Inc.  
Fort Lauderdale Florida, USA

“Battle of the Improvement Methodologies”

## 4:30 – 5:00 pm Thursday

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

“Quality Assurance, Performance and Business Improvement: A Lean Six Sigma Approach”

## 5:00 – 5:30 pm Thursday

**Ahmed Al-Jabr, CMBB**  
President, Saudi IEOM Society  
Dhahran, Saudi Arabia

“Challenges and Opportunities of Lean and Six Sigma for Saudi Industries”

## 4:00 – 5:15 pm Thursday

## SALON 7

**Graduate Student Paper Competition**

Session Chair: Hayder Zghair, Lawrence Technological University and Kettering University, Michigan, USA

**Autonomous Vehicle Sensors and Systems**

Jaycil Varghese, University of Michigan – Dearborn, Macomb, MI, United States

**Centralized Carrier Collaboration and Multi-Hub Location Optimization Using a Genetic Algorithm**

Jose Espiritu and Eduardo Castillo, The University of Texas at El Paso, Texas, United States

**Employees' Resistance to Change: Correspondence Tracking System Development**

Mostafa Fawzy, Iowa State University, USA

**Threshold Function for the Optimal Stopping of Arithmetic Ornstein-Uhlenbeck Process**

Alon Dourban and Liron Yedidsion, Technion - Israel Institute of Technology, Haifa, Israel

**Workshop on Geometric Dimensioning and Tolerancing (GD&T)**

## SALON 8

## 4:00 – 7:00 Thursday

**Dr. Ahad Ali**

Associate Professor  
Director, Bachelor of Science in Industrial Engineering (BSIE)  
Director, Master of Science in Industrial Engineering (MSIE)  
Director, Smart Manufacturing and Lean Systems Research Group  
A. Leon Linton Department of Mechanical Engineering  
Lawrence Technological University  
Southfield, Michigan 48075, USA

**4:00 – 5:15 pm Thursday****SALON 9****Human Factors and Ergonomics**

Session Chair: Shih-Wen Liu, National Taiwan University of Science and Technology, Taipei, Taiwan

**Human Factors Analysis for Railway Coach and Bogie Maintenance Using AHP**

Subhash Chandra Panja, Jadavpur University, Jadavpur, Kolkata, West Bengal, India

Sanghamitra Poddar, Institute of Engineering & Management, Kolkata, West Bengal, India

Malay Gangopadhyaya, Institute of Engineering & Management, Kolkata, West Bengal, India

**Usability assessment of a headrest accessory used for wheelchairs**

Laura Stanley and Kaysha Young, Montana State University, Bozeman, Montana, United States

**Usability assessment of an adjustable wheel-locking system for a child's wheelchair**

Laura Stanley and Kaysha Young, Montana State University, Bozeman, Montana, United States

**Chatbots in Online Environments - A Linguistic Analysis**

Netaya Lotze, Leibniz University of Hanover, Deutsches Seminar, Hanover, Niedersachsen, Germany

**Gaze-Based Metrics for Consumers' Viewings of Printed Advertisements**

Hiroataka Aoki, Tokyo Institute of Technology, Tokyo, Japan

**4:00 – 5:15 pm Thursday****SALON 10****Operations Research**

Session Chair: Thien-My Dao, ETS/University of Quebec, Montreal, QC, Canada

**Managing Congestion in a Dynamic Multi-Modal Facility Location Problem**

Mohammad Marufuzzaman, Mississippi State University, Starkville, MS, United States

**Evacuation of a Highly Congested Urban City: the Case of Beirut**

John El Khoury, Department of Civil Engineering, Lebanese American University, Byblos, Lebanon

Jean-Paul M. Arnaout, Department of Business Administration, Gust University for Science and Technology (GUST), Kuwait

Caline El Khoury, Lebanese American University, Byblos, Lebanon

**Cuckoo Search Algorithm for Hybrid Flow Shop Scheduling Problem with Multi-layer Assembly Operations**

Mohamed Komaki, Dept. of Electrical Engineering and Computer Science, Case Western Reserve University, Cleveland, USA

Shaya Sheikh, Management Science Department, New York Institute of Technology, New York, NY, USA

Ehsan Teymourian, Department of Industrial Engineering, Mazandaran University of Science and Technology, Babol, Iran

Behnam Malakooti, Dept. of Electrical Engineering and Computer Science, Case Western Reserve University, Cleveland, USA

**A new part routing-based decisional algorithm for urgent fabrication through a cost-time model in a flexible manufacturing system**

Thien-My Dao, ETS/University of Quebec, Montreal, QC, Canada

**Open Configuration: Framework and Definition**

Xiaoyu Chen, Nanterre, Paris, France

Linda Zhang, Puteaux, Paris, France

## Friday, September 11, 2015

### 08:00 – 09:30 Global Engineering Education V (Friday) – SALON 4

Session Chair: Jairo Alfonso Vargas, Fundación Universitaria Konrad Lorenz, Bogotá, Colombia

#### 8:00 – 8:30 am, Friday

##### **Jairo Alfonso Vargas, IE, BBSS**

Department Head, Department of Industrial Engineering  
Fundación Universitaria Konrad Lorenz, Bogotá Colombia  
Regional VP of IIE, Central and South America

#### 8:30 – 9:00 am, Friday

##### **Vladimir Robles Bykbaev**

Coordinator of the Research Group on Artificial Intelligence and Assistive Technologies  
Universidad Politécnica Salesiana  
Cuenca, Ecuador

#### 9:00 – 9:30 am, Friday

##### **Carlos Ernani Fries and Guilherme Luz Tortorella**

Federal University of Santa Catarina, Florianopolis, SC, Brazil

“Application of Focus Groups and Learning Cycles on the A3 Thinking Methodology:  
The case of increasing machinery capacity at a steel plant” [ID 210]

### 8:00 – 9:15 am Friday

### SALON 3

#### **Transportation**

Session Chair: Peng Sun, Eindhoven, Netherlands

##### **A Peer-to-Peer Public Health Intervention – A Case Study in Transportation Safety**

Laura Stanley, Montana State University, Bozeman, Montana, United States

##### **A Statistical Approach to Estimate the Correlation between Charging Stations Availability and Plug – In Electric Vehicles Sales in Canada**

Yassir Alhazmi and Magdy Salama, University of Waterloo, Ontario, Canada

##### **A Three-Stage Approach for Solving Location-Routing Problem in Hazardous Materials Transportation**

Abbas Mahmoudabadi, Mehrastan University, Astaneh, Gilan, Iran  
Reza Tavakkoli-Moghaddam and Azadeh Abolghasem, Tehran, Iran

##### **Hybrid column generation and large neighborhood search for the time-dependent selective PDPTW**

Peng Sun, Eindhoven University of Science and Technology, Eindhoven, Netherlands

##### **Supply Chain Innovation - A Modern Application of Lean and Agile Methodologies**

Samson Oludapo, University Malaysia Pahang, Gambang, Kuantan, Malaysia

### 8:00 – 9:15 am Friday

### SALON 9

#### **Graduate Student Paper Competition**

Session Chair: Hayder Zghair, Lawrence Technological University and Kettering University, Michigan, USA

##### **Simulation Analysis for futuristic manufacturing: A green roadmap**

Amandeep Singh, Deepu Philip, Janakranjan Ramkumar and Suman Samanta, Indian Institute of Technology Kanpur, India

**Multi-Objective Supply Chain Network Design under Demand Uncertainty Using Robust Goal Programming Approach**

Raghda Taha, AASTMT, Cairo, Egypt  
Yomna Sadek, Amin Elkharbotly and Nahid Afia, ASU, Cairo, Egypt  
Khaled Abdallah, AASTMT, Cairo, Egypt

**Biofuel Production: Potential Requirements Integration**

Mostafa Fawzy, Iowa State University, USA  
Paul Compton, The University of Texas at Arlington, USA

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**8:00 – 9:15 am Friday****SALON 10****Entrepreneurship and Innovation**

Session Chair: Nor Mahirah Mustapha, Universiti Malaysia Pahang, Kuantan, Pahang, Malaysia

**Assessing Capabilities for Innovation - The Case of Iranian Kalleh Meat Product Company**

Reza Farrokhan Kaach of Solico Group, Amol, Mazandaran, Iran  
Faezeh Soleimani, Amol, Mazandaran, Iran

**A New Performance Measurement Framework for Small and Medium Enterprises**

Syafiah Norsyahira Jubidin, Shahryar Sorooshian and Fatimah Mahmud, University Malaysia Pahang, Kuantan, Pahang, Malaysia

**A Performance Measurement Systems; How is it differ for Malaysian SME Perspectives**

Nor Mahirah Mustapha, Universiti Malaysia Pahang, Kuantan, Pahang, Malaysia

**Analysis of Availability of Fire Fighting Equipment in Selected Knitting Garment Factories in Bangladesh**

Shibbir Ahmad and Mohammad Kamruzzaman, Mechanical Engineering Department, Dhaka University of Engineering and Technology (DUET), Gazipur, Bangladesh

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**8:00 – 9:15 am Friday****SALON 11****Healthcare Operations and Services**

Session Chair: Hansa Lysander Manohar, Anna University, Chennai, Tamil Nadu, India

**A System Approach Linking Quality Culture, Employee Health and Organizational Effectiveness – A Case Study**

Rina Sadia, Shenkar College of Engineering and Design, Kfar Saba, Israel

**eHealth: Hurdles and Progress in K.S.A**

Abdul Rauf Malik, King Abdulaziz University, Jeddah, Makkah, Saudi Arabia

**Predictive Model for Forecasting Clinical Outcomes of Rehabilitation Patients Using Advanced Technologies**

Marvin Rothwell, Florence, Kentucky, United States

**Impact of Magnesium Intake and Supplementation on Improving the Quality of Life in Type II Diabetes Mellitus Patient**

Shamitha Manohar, Hansa Lysander Manohar, and Chelliah Manohar Ratnakumar, College of Engineering Guindy, Anna University, Chennai, Tamil Nadu, India

**Implementing a Taxonomy for the Development of a Database for a Type 2 Diabetes Mellitus Preventative Care Personalized Learning System**

Dorian Davis, Steven Jiang, and Tanisha Richards, North Carolina A&T State University, Greensboro, NC, USA

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**8:00 – 9:15 am Friday****SALON 12****Manufacturing and Design**

Session Chair: Rupy Sawhney, University of Tennessee-Knoxville, TN, United States

**Planning and Executing Manufacturing Facilities for Global Supply Chains**

Shahram Taj, Lawrence Technological University, Southfield, MI, United States

**Optimal Hull and Mold Storage in a Lean Boat Manufacturing**

Mostafa Ghafoorivarzaneh, Rupy Sawhney and Tron Dareing, University of Tennessee-Knoxville, TN, United States



**Design of a small scale cereal packaging machine suitable for developing countries**

Tawanda Mushiri and Charles Mbohwa, University of Johannesburg, Gauteng, South Africa

**Impact of Cutting Forces on Machining Quality**

Basel Alsayyid Ahmad, UAEU, Al Ain, Abu Dhabi, United Arab Emirates

**Review of Image Processing Techniques for Detection of Age-related Macoular Degeneration (ARMD) Literature Review**

Samina Khalid, Mirpur University of Science and Technology, Mirpur, Azad Jammu Kashmir, Pakistan

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10:00 – 11:00 *Morning Keynote: Alastair Orchard*, Director Digital Enterprise Projects,  
Siemens PLM Software, Genoa, Italy *"The Role of Manufacturing Engineering in the Digital Enterprise"*  
Salon 5-6-7

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11:00 – 11:30 Networking Break

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11:30 – 13:00 Global Engineering Education VI (Friday) – SALON 4

## **Outcome-Based Education (OBE) Workshop:**

**The Essence of OBE and Implementation Experiences in Malaysia**

**Dr. Chan Chee-Ming**

Associate Professor and Deputy Dean (Academic and Research)

Centre for Graduate Studies

Universiti Tun Hussein Onn Malaysia

Batu Pahat, Johor, Malaysia

**Dr. Alina Shamsudin**

Associate Professor

Deputy Dean (Teaching, Learning and Academic Training)

Centre for Academic Development and Training

Universiti Tun Hussein Onn Malaysia

Johor, Malaysia

**Dr. Azeanita Suratkon**

Senior Lecturer at the Faculty of Civil & Environmental Engineering

Lead – Department of Building and Construction Engineering

Universiti Tun Hussein Onn Malaysia

Johor, Malaysia

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**11:30 am – 12:45 pm Friday**

**SALON 3**

**Sustainability**

Session Chair: Elizabeth Ojo, University of Johannesburg, South Africa

**Driving TQM/BE Model based Sustainable Excellence Enterprise Framework**

Syed Masood, International Islamic University, Islamabad, Pakistan

Muhammad Tasleem, Asim Nisar and Nawar Khan, NUST, Islamabad, Pakistan

**Global Warming Potential and Cost Minimization for the Centralized Carrier Collaboration and Multi-Hub Location Problem**

Jose Espiritu, Heidi Taboada, Juan Fernandez, Eduardo Castillo, Claudia Valles and Ileana Delgado, The University of Texas at El Paso, Texas, United States

**Style & Sustainability using precast insulated concrete for educational buildings in hot climate: Case studies in UAE**

Mohammed Sherzad, Ajman University of Science & Technology, Ajman, United Arab Emirates

**Sustainability- Competitive edge?**

Elizabeth Ojo, Charles Mbohwa and Esther Akinlabi, University of Johannesburg, South Africa

**Performance Measurement and Process Improvement In Terms Of Overall Equipment Effectiveness in Specific Section of Specific RMG Sector**

Shibbir Ahmad and Mohammad Kamruzzaman, Mechanical Engineering Department, Dhaka University of Engineering and Technology, Gazipur, Bangladesh

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**11:30 am – 12:45 pm Friday****SALON 9****Automation and Control**

Session Chair: Rina Sadia, Shenkar College of Engineering and Design, Kfar Saba, Israel

**A case study job-shop project planning and scheduling problem**

Milad Akrami, Alireza Ghasemi, Uday Venkatadri and Mahdi Tajbakhsh, Dalhousie University, Halifax, NS, Canada

**Impact of 5S on quality, productivity and organizational climate. Two Analysis Cases**

Paloma Martínez Sáchez and Carolina Montoya Rodriguez, Engineering Faculty, Bosque University, Bogota, Colombia

Ursula Maruyama, Engineering and Business Department, CEFET-RJ, Maracana – Rio de Janeiro, Brazil

Fernando Salazar, School of Management, Rosario University, Bogota, Colombia

**Process Improvement in Emergency Units. Two Analysis Cases**

Paloma Martínez Sánchez, Engineering Faculty. Bosque University, Bogota, Colombia

José Martínez, Judith Cavazos and Pablo Nuño. UPAEP University, Puebla, Mexico

**Inventory Assessment of the cleaning of Plant Off-gas in the recovery process of PGM at the Anglo American Platinum LTD, South Africa**

Junior Mabiza and Charles Mbohwa, University of Johannesburg, South Africa

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**11:30 am – 12:45 pm Friday****SALON 10****Energy**

Session Chair: Bidyut Kr. Bhattacharyya, Indian Institute of Engineering Science and Technology, Shibpur, India

**Renewable Sources and CCHP Techniques in “Technological Polo” (TP) of University of Catania (First step)**

Francesco Patania, Antonio Gagliano, Francesco Nocera and Antonio Agrifoglio, Department of Industrial Engineering, Catania University, Italy

**Effect of EGR on the Performance of Diesel Engine Fueled by Mauha Oil and its Blends**

Rajendra Patil, TSSM's PVPIT Bavdhan, Pune, Maharashtra, India

**Performance Evaluation of the Proposed and Existing Waste Management System: Economic Analysis**

Swapna Das and Bidyut Kr. Bhattacharyya, Indian Institute of Engineering Science and Technology, Shibpur, Howrah, India

**A Critical Evaluation of Climate-Related Risks Associated with Oil and Gas Industry in Libya**

Tawfik Elmhedi, The Libyan Academy, Tripoli, Libya

Saber Elmhedi, University of Tripoli, Tripoli, Libya

Taher Elmhedi, Tripoli, Libya

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**11:30 am – 12:45 pm Friday****SALON 11****Healthcare Operations and Services**

Session Chair: Majid Baseer, Sarhad University of Science and Information Technology, Pakistan

**A System Dynamics Model of Flow of Patients from the ICU through the Step-Down Units**

Sankar Sengupta and Ozge Civit, Oakland University, Rochester, Michigan, United States

**Impact of Knowledge and Attitude on Practices of Over the Counter Medications**

Hasitha Diana Manohar and Hansa Lysander Manohar, India College of Engineering Guindy, Anna University, Chennai, Tamil Nadu, India

**A Fuzzy AHP & Extent Analysis Based Approach for Commercial Software Evaluation.**

Majid Baseer, Sarhad University of Science and Information Technology, Peshawar, Pukhtunkhwa, Pakistan

**X-ray Image Segmentation by using Fuzzy Index measure Combined with Principle Component Analysis**

Mohamed Shajahan and Munir M Al Haddad, College of Engineering and Information Technology, Jeddah, Mecca, Saudi Arabia

**11:30 am – 12:45 pm Friday****SALON 12****Manufacturing and Design**

Session Chair: Mohammad Eslamipour, MAPNA, Karaj, Alborz, Iran

**Applications for Multi Criteria Decision Making in New Product Development**

Brendan Sullivan, Las Cruces, New Mexico, United States

**Product Life Cycle Key to Sustainable Innovation**

Mohammad Eslamipour, MAPNA, Karaj, Alborz, Iran

**Horizontal Directional Drilling Quality**

Basel Alsayyed Ahmad, Amani Alkhodari, Khaled ElSayed, Mansoor Al Jabri and Shamsa Al Neyadi, UAEU, Al Ain, Abu Dhabi, United Arab Emirates

**Vendor Managed Inventory: A Case Study on Faragalla Food Industries in Egypt**

Sara Elzarka, Eman Elakkad, Abdallah Shaalan and Khaled Abbas, Arab Academy for Science, Technology & Maritime Transport, Alexandria, Egypt

1:00 – 1:45 *Friday Lunch Keynote:* **Dr. Miguel Gastón Cedillo-Campos**, Professor in Logistics Systems Dynamics, Senior Researcher, Mexican Institute of Transportation and Founding President, Mexican Logistics and Supply Chain Association (AML) – **Salon 5-6-7**

1:45 – 2:30 *Friday Lunch Keynote:* **Uriel R. Cukierman**, Professor, Facultad Regional Buenos Aires, Universidad Tecnológica Nacional, Buenos Aires, Argentina and **President, International Federation of Engineering Education Societies (IFEES)** – **Salon 5-6-7**

**2:30 – 3:30 Awards and Recognitions**

15:30 – 16:45 **Global Engineering Education VII (Friday) - SALON 4**

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

**3:30 – 3:55 pm Friday****Dr. Srinivas R. Chakravarthy**

Professor and Department Head, Industrial and Manufacturing Engineering  
Kettering University, Flint, MI-48504, USA

**“Modeling and Simulation in Undergraduate Education in Industrial Engineering Program:  
Opportunities and Challenges”**

**3:55 – 4:20 pm Friday****Dr. Sabah Abro**

Professor and Program Director, Master of Science in Engineering Technology  
Department of Engineering Technology  
Lawrence Technological University, Southfield, Michigan, USA

**“Multi-Approach Evaluation of Entrepreneurial Senior Project Course” [ID 104]**

4:20 – 4:45 pm Friday

**Dr.-Eng. Eldon Caldwell**

Director, Industrial Engineering Department  
Engineering School, University of Costa Rica

“Using Robotics as Educational Framework Strategy in Industrial Engineering: The Experience at University of Costa Rica”

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## Entrepreneurship Workshop

4:00 – 7:00 pm, Friday - SALON 5

### Entrepreneurial Mindset: Opportunity Recognition and the Value Proposition

**Professor Donald M. Reimer**

Director of Entrepreneurial Programs  
College of Engineering  
Lawrence Technological University  
Southfield, Michigan, USA

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3:30 – 4:45 pm Friday

**SALON 3**

### Systems Engineering and Technology Management

Session Chair: Rekha Mishra, GGSIPU, New Delhi, India

#### Computation of Manufacturing Complexity in a Mixed Model Assembly

Moise Busogi, YeongGwang Oh, Namhun Kim and Wooyeol Lee, UNIST, Ulsan, Korea

#### A Multi-Criteria Decision Making Tool to Prioritize Network Component for Recovery based on Importance Measures

Nazanin Morshedlou, Yasser Almoghathawi and Angela Oommen, University of Oklahoma, Norman, OK, United States

#### Best Performance Measurement System for Malaysian Small and Medium Enterprises

Nor Filianie, Universiti Malaysia Pahang, Kuantan, Pahang, Malaysia

#### Best Performance Measurement System for Malaysian Small and Medium Enterprises

Nor Filianie Aziz, Universiti Malaysia Pahang, Kuantan, Pahang, Malaysia

#### Business Intelligence and Analytics: Paving way for Operational Excellence, Quality and Sustainability in Indian Banks

Rekha Mishra and A. K. Saini, GGSIPU, New Delhi, India

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3:30 – 4:45 pm Friday

**SALON 9**

### e-Business and e-Services

Session Chair: Dr. Galia Novakova, Sofia University, Bulgaria

#### Linking e-fulfillment dimensions to shopping satisfaction and repurchase intention in e-tailing

Nikunj Kumar Jain, FORE School of Business, New Delhi, India  
Preeti Jain, Nokia Networks Pvt. Ltd., Noida, Uttar Pradesh, India

#### Impact of Operational Drivers on Repurchase Intention in e-fulfillment

Nikunj Kumar Jain, FORE School of Business, New Delhi, India

#### Comparative Study between "Neuro-Logit" and Logistic Regression Analysis in Corporate Financial Distress Forecasting

Waleed Almonayir, Swiss Business School, Abu Dhabi, United Arab Emirates

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**3:30 – 4:45 pm Friday****SALON 10****Energy**

Session Chair: Seyed Amirhossein Alavifar, Russian State University of Tourism and Service, Russia

**Energy Optimization**

Mohamed Ibrahim Ahmed Al-Hargeisa, Woqooyi Galbeed, Somalia

**Economic Risk Management in Oil and Gas infrastructure; A Case study - Low Density Polyethylene (LDPE) production unit of Amir Kabir Petrochemical complex in Iran**

Seyed Amirhossein Alavifar and Victor Makarovich Zaernjuk, Russian State University of Tourism and Service, Russia  
Pouyan Banishahabadi, Department of Mechanical and Manufacturing Engineering, University Putra Malaysia  
Ehsan Aliabadi, Master of Chemical Engineering, Amirkabir Petrochemical Complex, Mahshahr, Iran

**Developing a Polynomial-Fourier Series Model for Building's Electricity Consumption Forecasting**

Wei Tong Chen, Cho-Liang Tsai and Chin-Shiang Chang, Naitonal Yunlin University of Sci. & Tech. Touliu, Yunlin, Taiwan

**Framework of Simulation Approach to Increase Energy Efficiency**

Mostafa Ghafoorivarzaneh and Rupy Sawhney, University of Tennessee-Knoxville, TN, United States

**3:30 – 4:45 pm Friday****SALON 11****Modeling and Simulation**

Session Chair: Neda Javadieh, Melbourne, Victoria, Australia

**Modeling Trading & Procurement Cycle based on Insourcing and Outsourcing strategy**

Mohamed Laradi, Coventry University, Coventry, Midland, United Kingdom

**Optimization of an Asynchronous Manufacturing Production System Incorporating Mixed Operational Cycle Time Variation**

Saso Krstovski and Ahad Ali, Lawrence Technological University, Michigan, United States

**Analysis of a gear train using finite element modelling**

Tawanda Mushiri and Charles Mbohwa, University of Johannesburg, Gauteng, South Africa

**Driving behavior of elderly people: the Challenges and Opportunities**

Neda Javadieh, Melbourne, Victoria, Australia

**3:30 – 4:45 pm Friday****SALON 12****Manufacturing and Design**

Session Chair: Jose Espiritu, The University of Texas at El Paso, United States

**Variety Impact Sources on the Inducible Manufacturing Complexity of the Flexible Automated Lines**

Hayder Zghair, University of Baghdad, Iraq and Lawrence Technological University, Southfield, MI, United States  
Ahad Ali, Lawrence Technological University, Southfield, MI, United States

**Optimal Scheduling of an Anaerobic Digester Considering Multiple Feedstocks Using Genetic Algorithms**

Jose Espiritu and Ana Cram, The University of Texas at El Paso, United States

**Environmental Impacts Assessment of the Cleaning of Plant Off-gas in the recovery process of PGM at the Anglo American Platinum LTD, South Africa**

Junior Mabiza and Charles Mbohwa, University of Johannesburg, South Africa

**Short Term Load Forecasting Using Optimized Neural Network with Harmony Search**

Javad Olamaei and Ehsan Barzamini, Dept. of Electrical Engineering, Islamic Azad University, South Tehran Branch, Iran

**Applications of Petri nets Based Models in Manufacturing Systems: a review**

Husam Kaid, Abdulaziz M. El-Tamimi, Emad Abouel Nasr and Abdulrahman Al-Ahmari, King Saud University, Saudi Arabia

**Design of a crushing system that improves the crushing efficiency of gold ore at a local mine: case of Zimbabwe**

Tawanda Mushiri and Charles, Mbohwa, University of Johannesburg, Johannesburg, Gauteng, South Africa

4:45 – 5:00 pm Break

**17:00 – 18:15 pm, Friday****Global Engineering Education VIII (Friday) – SALON 4**

Session Chair: Dr. Muhammad H. Zaman, Boston University, USA

**5:00 – 5:25 pm Friday**

**Dr. Muhammad H. Zaman**

Associate Professor and Associate Chair for Undergraduate Affairs  
Department of Biomedical Engineering, Associate Director, Kilachand Honors College  
Boston University, USA

**“Engineering Education in Africa: Impact for Development and Sustainability”**

**5:25 – 5:50 pm Friday**

**Mrs. Ghamande Manasi Vyankatesh**

Vishwakarma Institute of Technology  
Bibwewadi, Pune, Maharashtra, India

**“Challenges of Self-Financing Engineering Institutes for Better Survival in Future”**

**5:50 – 6:15 pm Friday**

**Dr. Hansa Lysander Manohar**

Associate Professor, Department of Management Studies  
Anna University, Chennai, India

**“A Roadmap to Integrate Sustainability and Innovation in Engineering Education”**

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**5:00 – 6:15 pm Friday**

**SALON 3**

**Product and Processes**

Session Chair: Charles Mbohwa, University of Johannesburg, Gauteng, South Africa

**Composites Product and Process Quality**

Basel Alsayyed Ahmad, Naseefa Al Ameri, Ghubaisha Al Ameri, Abdul Rehman, Abeer Seraidy, Balqis Al Braiki and Fatmah Abdouli, UAEU, Al Ain, Abu Dhabi, United Arab Emirates

**A Fuzzy Approach for Analyzing the Gap between the Desired and the Current Factors Pertaining to the Research and Development of the Iranian Nanotechnology**

Shahla Yassaee and Farhad Ghassemi Tari, Sharif University of Technology, Tehran, Iran

**Inspection and Analysis of an Electrical Heating Element Production Facility and Validation of a Proposed Strategy to Reduce Rejections in the Line**

Muhammad Sami uz Zaman, Rawalpindi, Pakistan

**Finite element analysis of a car rocker arm**

Tawanda Mushiri and Charles Mbohwa, University of Johannesburg, Gauteng, South Africa

**Use of Augmented Reality in Technical Documentation**

Catherine Badras, Martin Schuler and Alexander Baechli, Winterthur, Zurich, Switzerland

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**5:00 – 6:15 pm Friday**

**SALON 9**

**Project Management**

Session Chair: Wei Tong Chen, Taiwan National Yunlin University of Sci. & Tech., Touliu, Yunlin, Taiwan

**Building Management Performance Assessment Using Data Envelopment Analysis**

Wei Tong Chen, Jian Jien-Bin and Chen Hong Long, Taiwan National Yunlin University of Sci. & Tech., Touliu, Yunlin, Taiwan

**Project Planning and Activity Alternative Selection Considering Stochastic Reliability**

Devdatta Deo and Michael Kuhl, Rochester Institute of Technology, Rochester, New York, United States

**General Satisfaction Index (GSI) Applied to Organizational Climate Researches: a new approach focused on banking**

Carlos Ernani Fries and Guilherme Luz Tortorella, Federal University of Santa Catarina, Florianopolis, SC, Brazil

**Reasons for adopting an ERP system in a public University in Southern Brazil**

Carlos Ernani Fries and Guilherme Luz Tortorella, Federal University of Santa Catarina, Florianopolis, SC, Brazil

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**5:00 – 6:15 pm Friday****SALON 10****Construction Management**

Session Chair: Shahryar Sorooshian, University of Malaysia Pahang, Kuantan, Pahang, Malaysia

**An Environmental Impact Framework for Improving the Performance of Projects**

Richard Hannis, Shahryar Sorooshian and Shariman Bin Mustafa, University of Malaysia Pahang, Kuantan, Pahang, Malaysia

**Lean Construction Techniques: A Framework towards Elimination of Waste in Construction Industry**

Richard Hannis, Shahryar Sorooshian and Shariman Bin Mustafa, University of Malaysia Pahang, Kuantan, Pahang, Malaysia

**Evaluating Projects Delay Sources through '4 Ps' Framework Analysis**

Richard Hannis, Shahryar Sorooshian and Shariman Bin Mustafa, University of Malaysia Pahang, Kuantan, Pahang, Malaysia

**Greening the construction industry**

Elizabeth Ojo, Charles Mbohwa and Esther Akinlabi, University of Johannesburg, South Africa

**Sustainable project selection: A novel MCDA method**

Anissa Frini, Université du Québec à Rimouski, Lévis, QC, Canada

Sarah BenAmor, Telfer School of Management, Ottawa, ON, Canada

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**5:00 – 6:15 pm Friday****SALON 11****Modeling and Simulation**

Session Chair: Khalaf Sultan, King Saud University, Riyadh, Saudi Arabia

**Modeling and Simulation of Berthing Processes for a Panamanian Container Terminal using BPMN and Discrete Event Simulation**

Rebeca Caceres, UMIP, Ancon, Panama

Luis Rabelo, UCF, Orlando, Florida, United States

Hector Mendoza, Mendoza, Panama

Guimara Tuñon, Panama

John Pastrana, UCF, Orlando, Florida, United States

**Statistical Analysis of Sliding Resistance of Braided Glass Fiber Reinforced Composite Orthodontic Brackets and Archwires**

Sarder Sadique, Marshall University, Huntington, WV, United States

**Robust Regression Analysis Using Redescending M and MM Estimators Based on Modified Cauchy Function**

Khalaf Sultan, King Saud University, Riyadh, Saudi Arabia

**Improving PID Integrated Active Suspension System by using TLBO optimized parameters**

Yash Gandhi, Pandit Dendayal Petroleum University, Bhilai, Chhattisgarh, India

Mayuri Patel, Pandit Dendayal Petroleum University, Mehsana Gujarat, India

Vedant Mehta, Pandit Dendayal Petroleum University, Baroda, Gujarat, India

Bhargav Gadhvi, Pandit Deendayal Petroleum University, Mehsana, Gujarat, India

Markana Anilkumar, Pandit Deendayal Petroleum University, Gandhinagar, India

**Operational Improvement of Warehouse Operations**

Gomanth Duvvuru, Ahad Ali and Don Reimer, LTU, United States

**5:00 – 6:15 pm Friday****SALON 12****Case Studies**

Session Chair: Abdel Magid Hamouda, Qatar University, Doha, Qatar

**Improving Obstacle Detection of Automated Guided Vehicles via Analysis of Sonar and Infrared Sensors Output**

Ademola Abodunrin, Morgan State University, Baltimore, MD, United States

**Quantitative risk analysis in Oil and Gas Project using Monte Carlo Simulation**

Mohammad M. Khadem and Mahmoud Al Kindi, Department of Mechanical and Industrial Engineering, Sultan Qaboos University Al-Khod, Muscat, Sultanate of Oman

**One Right Way to Make Use of Energy In Accordance With the Second Law of Thermodynamics: The “Technical Polo” Of Engineering Faculty of Catania University.**

Francesco Patania, Department of Industrial Engineering of Catania University, Catania, Italy

**Technology Transfer conceptual model in Oil and Gas Industry in developing countries**

Abdel Magid Hamouda, Nagi Elmagrabi and Khalifa Al-Khalifa, Qatar University, Doha, Qatar

**Designing a Reliable Bio-fuel Supply Chain Network considering Link Failure Probabilities**

Mohammad Marufuzzaman, Sushil Poudel and Linkan Bian, Mississippi State University Starkville MS, United States

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**Poster Session****Improving the quality of engineering education: using a Pitot tube system at fluid mechanics laboratories**

Pedro Ferreira, Iara Lima, Tulio Vivaldini, Alexandre Frugoli and Pedro Frugoli, Universidade Paulista (UNIP), São Paulo, SP, Brazil

Thais Santos, Universidade Paulista (UNIP)/Universidade São Judas Tadeu (USJT), São Paulo, SP, Brazil

**A case study on the use of practical problem-solving activities to quantitatively improve physics learning in engineering education**

Thais Santos, Universidade Paulista (UNIP)/Universidade São Judas Tadeu (USJT), Brazil

Lilian Pereira, Universidade Paulista (UNIP), Brazil

Pedro Ferreira, Universidade Paulista (UNIP), Brazil

Iara Lima, Universidade Paulista (UNIP), Brazil

Tulio Vivaldini, Universidade Paulista (UNIP), Brazil

Alexandre Frugoli, Universidade Paulista (UNIP), Brazil

Pedro Frugoli, Universidade Paulista (UNIP), Brazil

**Theoretical and Practical Integrated: Engaging Engineering Students in Fluid Mechanics Class**

Iara Lima, Universidade Paulista (UNIP), Brazil

Pedro Ferreira, Universidade Paulista (UNIP), Brazil

Tulio Vivaldini, Universidade Paulista (UNIP), Brazil

Alexandre Frugoli, Universidade Paulista (UNIP), Brazil

Pedro Frugoli, Universidade Paulista (UNIP), Brazil

Thais Santos, Universidade Paulista (UNIP)/Universidade São Judas Tadeu (USJT), Brazil

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## IEOM Society Activities

### IEOM Booth at INFORMS San Francisco Meeting 2014

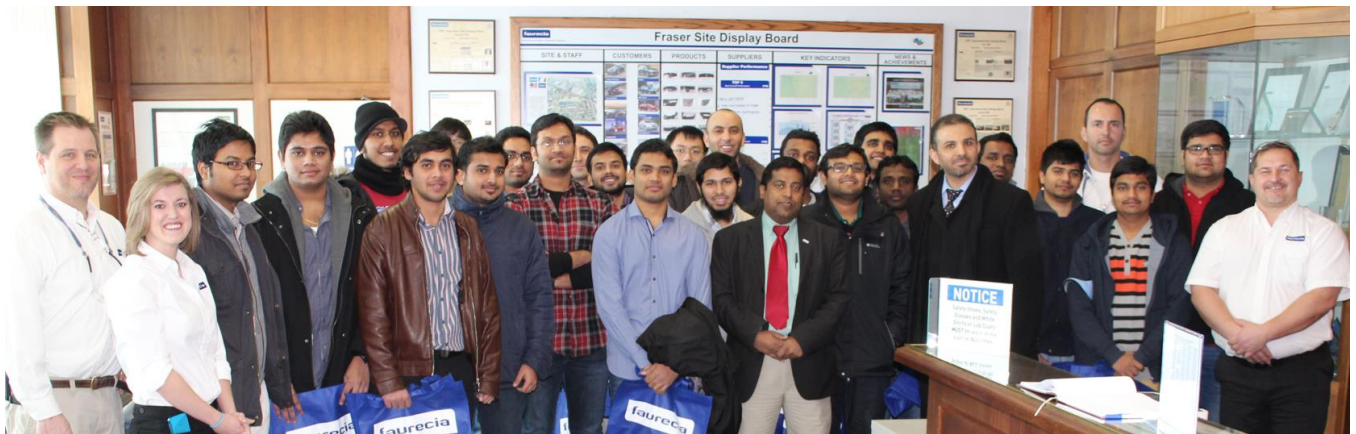


### IEOM Student Chapter Established at LTU

Faculty Advisors: Dr. Jacqueline Chestnut and Professor Don Reimer



### Faurecia Fraser Plant Visit - IEOM Student Chapter at LTU (January 2015)



## Establish Your Institution IEOM Student Chapter

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 student chapter establishment form: <http://ieom.org/ieom/student-chapters/>.

### IEOM Society - Saudi Chapter Established

#### Meeting was held at EPD (Environmental Production Department), Engineering Services of Saudi Aramco

From left to right:

**Engr. Ahmed Aljabr**, President IEOM, Saudi Chapter

**Dr. Ayman Alrafaj**, Environmental Specialist, Engineering Services

**Dr. Rafiq Djwad**, Engineering Specialist, Engineering Services

**Engr. Abdulrahman Aljabr**, Business Manager, Environmental Protection Depart.

**Engr. Noushad Kunnummal**, Engineering Consultant, Engineering Services

**Dr. Alaa Elyas**, Engineering Consultant, Engineering Services

**Engr. Abulrazaq Alsaleh**, Environmental Consultant, Engineering Services

**Dr. Khalid Alabdulqader**, Engineering Consultant, Engineering Services



### IEOM Foundation for Humanity

IEOM Foundation helps disadvantaged students and schools for K-12 education in underdeveloped and developing countries. Students and schools can get direct support from the IEOM Foundation. It can also help other organizations to support similar projects. Based on the funding, the projects are selected.



JULY 2014: Donated shirts for the orphans and poor students in Bangladesh attending elementary, middle and high schools.



JULY 2015: Donated food baskets for needy families

### IEOM Foundation has started projects in Nigeria and Haiti for helping school children



First IEOM Conference in Dhaka, Bangladesh, January 7-9, 2010



Second IEOM Conference in Kuala Lumpur, Malaysia, Jan 22-24, 2011





Third IEOM Conference in Istanbul, Turkey, July 3-6, 2012



Fourth IEOM Conference in Bali, Indonesia, January 7-9, 2014





# IEOM Society Activities

Fifth IEOM Conference in Dubai, United Arab Emirates (UAE), March 3-5, 2015



Industry Solutions Session Participants



Received IEOM Lean Six Sigma Certification



Opening Keynote by Dr. Don Taylor, Virginia Tech, USA



Award Dinner



Registration Desk



Boeing and IEOM Representatives



Technical Session

## IEOM STUDENT CHAPTERS

Akhawayn University, Morocco

Babylon University, Iraq

Islamic University of Technology (IUT), Bangladesh

Lawrence Technological University

King Abdulaziz University

National University of Science and Technology in Windhoek, Namibia

University of Costa Rica

University of Peradeniya, Sri Lanka

Universiti Utara Malaysia

### IEOM Student Chapter at University of Peradeniya, Sri Lanka

<http://iieom.org/ieom/university-of-peradeniya/>

First IEOM Student Chapter in Sri Lanka at University of Peradeniya is formed on 6th of August, 2015 under the guidance of Dr. Asela K. Kulatunga. IEOM Student Committee:



Designation	Name	Faculty	Academic year
President	Chanjief Chandrakumar	Engineering	4 <sup>th</sup> Year
Secretary	Wimangi Wickramasighe	Management	3 <sup>rd</sup> Year
Vice President	Samith Kariyawasam	Science	3 <sup>rd</sup> Year
Junior Treasurer	Lakshitha Rasanjana	Engineering	3 <sup>rd</sup> Year
Assistant Secretary	Sajeeda rahuman	Management	3 <sup>rd</sup> Year
Editor	Kasun Maduranga	Engineering	3 <sup>rd</sup> Year
International Relations	Balasubramaniam Sarangan	Science	4 <sup>th</sup> Year
Committee member	Jeyanthinatha Sarma Gowryathan	Engineering	4 <sup>th</sup> Year
Committee member	Mohamed Rikkas	Engineering	4 <sup>th</sup> Year
Committee member	Nadarasha Sanjeevan	Science	4 <sup>th</sup> Year
Committee member	H.M Chamara Madushanka	Science	2 <sup>nd</sup> Year
Committee Member	Dileepa Shenal	Management	3 <sup>rd</sup> Year
Committee member	Sagara Perera	Management	3 <sup>rd</sup> Year





**IEOM - Saudi Chapter** has been associated with College of Engineering at King Abdulaziz University to open the first students chapters in KSA at King Abdulaziz University "KAU" for both male and female students. They will begin their activates starting from Fall semester. According to the latest statistics from the Ministry of Higher Education in Saudi Arabia, King Abdulaziz University had 6,148 faculty and total of 132,094 students, and consider to be the largest University in the Kingdom of Saudi Arabia.

**In the Picture:** From left to right, Dr. Raed Abeed, Dean of the College of Engineering-Northern Branch at King Abdulaziz University, Engr. Ahmed Aljabr, President at IEOM Saudi Chapter, Dr. Amr Alamri, IEOM Student Activates Director - Saudi Chapter.

## IEOM PROFESSIONAL CHAPTERS

Australian IEOM Society: <https://sites.google.com/site/ieomaustralia/>

Saudi Arabian IEOM Society: <http://ieom.org/ieom/saudi-arabian-ieom-society/>

Bangladeshi IEOM Society: <http://ieom.org/ieom/bangladeshi-ieom-society/>

Nigerian IEOM Society: <http://ieom.org/ieom/nigerian-ieom-society/>

### Bangladeshi IEOM Society's Steering Committee

<http://ieom.org/ieom/bangladeshi-ieom-society/>

- Dr. A.R.M. Harunur Rashid, Islamic University of Technology (IUT) – Facilitator
- Dr. Shamsuddin Ahmed, Visiting Professor, Islamic University of Technology (IUT)
- Dr. Md. Haider Ali Biswas, Mathematics Discipline, Science Engineering and Technology School, Khulna University
- Dr. Md. Nurul Absar Chowdhury, MCE, Islamic University of Technology (IUT)
- Dr. A.S.M. Mojahidul Hoque, Department of Industrial and Production Engineering, Jessore University of Science and Technology, Jessor
- Dr. Md. Mosharruf Hossain, Dept. of Industrial and Production Engineering, Rajshahi University of Engineering and Technology (RUET)
- Dr. Md. Kamruzzaman, Department of Industrial & Production Engineering, Dhaka University of Engineering and Technology (DUET), Gazipur
- Dr. Mohammad Sarwar Morshed, Ahsanullah University of Science & Technology (AUST)
- Dr. Abul Mukid Mohammad Mukaddes, Industrial & Production Engineering, Shahjalal University of Science and Technology
- Dr. Sultana Parveen, Department of Industrial and Production Engineering (IPE) Bangladesh University of Engineering and Technology (BUET)
- Dr. Md. Abdul Wazed, Chittagong University of Engineering & Technology (CUET), Chittagong, Bangladesh

**IEOM Australia** is the Official Chapter of IEOM Society provide means to communicate and network among people enthused with interests of Industrial Engineering and Operations Management through yearly conferences / seminars / workshops across the Australia, and illustrative research publications to disseminate the earned knowledge and experience.

#### Board of Directors:

- Dr. Mohammad Miftaur Rahman Khan Khadem
- Dr. Shamsul Huda
- Dr. Shafiqur Rahman
- Prof. Shahjahan Khan
- Dr. Kamrul Ahsan
- Dr. Manjur Ashraf

## International Journal of Industrial Engineering and Operations Management (IJIEOM)

The International Journal of Industrial Engineering and Operations Management (IJIEOM) aims to publish primary high quality research work in the field of industrial engineering and operations management (IEOM) for academics, researchers and practitioners to advance the theory and practice as well as to identify major trends in industrial engineering and operations management. The journal is expected to foster worldwide IEOM communities publishing in-depth research oriented papers with wide variety of problems related on real-life applications and research which affect in international levels.

IJIEOM covers academic research and industrial issues / applications related on fundamentals of industrial engineering and operations research, supply chain management, logistics, systems and service engineering, reliability and quality, modeling, simulation and optimization, and artificial intelligence. The application areas include manufacturing, healthcare, energy, transportation, financial, and business operations. Articles must have scientific research contribution with state-of-the-art review.

**IJIEOM is a flagship journal of IEOM Society.**

### Editorial Board

Dr. Ahad Ali, Lawrence Technological University, Michigan, USA

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Dr. Mehmet Savsar, Kuwait University, Safat, Kuwait

Dr. Sharon A. Johnson, Worcester Polytechnic Institute, Worcester, MA, USA

## IEOM Six Sigma and Lean Certification

**IEOM Certification Board Chair: Dr. Jayant Trewn**

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## Establishing Nigerian IEOM Chapter

### STEERING COMMITTEE

Dr. Joseph M. Ogundu, MBB  
Dr. Elkanah Oyetunji, Lagos State University

## Start Your IEOM Professional Chapter





**WANTED:**  
ENGINEERS, ARCHITECTS,  
SCIENTISTS, AND REBELS.

Lawrence Technological University isn't for just anyone. We want the future designers, engineers, scientists, and entrepreneurs who will create the innovations of tomorrow.

If you believe that everything is possible, and that *possible* is everything, we want you at LTU.

Check out our **Students' View of LTU** video at [www.ltu.edu/svv](http://www.ltu.edu/svv).

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## Advertising Opportunities

Universities and companies can place announcements for faculty positions and job openings on the IEOM Society website.

University Program Advertisements on the IEOM Society and conference websites

Advertise on the newsletters, online and printed conference programs

## Sponsorships and Exhibitions Opportunities at IEOM Conferences

## Join IEOM Society

### Be a Professional or Student Member

#### MEMBERSHIP BENEFITS

- Be part of the Diverse Industrial Engineering (IE) and Operations Management (OM) Profession
- Professional Development
- Access IEOM Publications
- IEOM Newsletters
- Access IEOM Online Resources
- Networking Opportunities
- Conferences and Seminars
- Career and Leadership Development

#### MEMBER FEES

Professional Members: \$35  
Student Member: \$15  
Retired: \$20

# IEOM Symposium on Global Engineering Education

**Dhaka, Bangladesh, December 19, 2015 (Saturday)**

**Venue: Institute of Engineers, Bangladesh (IEB), Ramana, Dhaka**

<http://iieom.org/ieom/gee-symposium-dhaka/>

**Theme: Engineering Education in Bangladesh vs. World and  
How IE can contribute to Bangladesh Development**

**Organized by: IEOM Society**

**Conjunction with Inauguration of Bangladeshi IEOM Society** (<http://iieom.org/ieom/bangladeshi-ieom-society/>)

IEOM Society is organizing a Symposium on Global Engineering Education to be held at the Institute of Engineers, Bangladesh (IEB), Dhaka on December 19, 2015. It addresses challenges and opportunities for engineering education in Bangladesh. Speakers will deliver talk on Bangladeshi engineering education curriculum vs. global engineering curriculum. A focus will be given on accreditation, assessment and student learning. Students and professors engagement in teaching and learning is a critical component of the engineering education to bridge theory and practice. Team work, design work, entrepreneurship and innovation in engineering curriculum will be addressed. How could we prepare engineering students with global competence?

## Tentative Program

7:00 am – 3:00 pm Registration	1:00 – 2:00 <b>Lunch Break</b>
9:00 – 9:50 Welcome and <b>Keynote:</b>	2:00 – 2:30 Challenges & Opportunities for Engineering Education
<i>10:00 am – 5:30 pm Technical Sessions</i>	2:30 – 3:00 How IE can contribute for Bangladesh Development
10:00 – 10:30 Engineering Teaching and Learning	3:00 – 3:30 Break
10:30 – 11:00 Engineering Education: Global vs. Bangladesh	3:30 – 4:00 Continuous Improvement, Quality, Lean, Human Factors for Industry and Societal Development
11:00 – 11:30 Tea Break	4:00 – 5:00 <b>Panel Session: Bangladesh Engineering Education – Challenges and Opportunities</b>
11:30 – 12:00 Problem based Learning (PBL) and Team Work	5:00 – 5:30 <b>Awards</b>
12:00 – 12:30 Engineering Education Curriculum	
12:00 – 12:30 Engineering Education Assessment and Accreditation	

**IEOM Dhaka Symposium will have two parallel technical sessions where authors and speakers will talk about how IE can contribute to Bangladesh development. The technical sessions will cover in the broader areas of IE and OM. Each technical presentation will be for 15 minutes with an abstract. It will be published in color printed program.**

**Registration Fee:** Local: Professional - Taka 2,000 (\$25), Student - Taka 750 (\$10), South East Asia - \$50, International - \$100 **ATTENDANCE CERTIFICATE WILL BE PROVIDED.**

**Online registration:** <https://www.eventbrite.com/e/ieom-symposium-on-global-engineering-education-tickets-17846425138/>

Local participants can pay onsite/online and International participants can pay **ONLINE:**  
<http://iieom.org/ieom/ieom-society-payment/>

## Submission:

**If you are interested to be a speaker or technical presenter, please submit to:**

[khadem@iieom.org/conference@iieom.org](mailto:khadem@iieom.org/conference@iieom.org).

**Technical presenters need to submit an abstract and  
Global Engineering Education Speakers need to submit bio, photo and title.**

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