



# IEOM Society

*"Achieving and Sustaining Operational Excellence"*

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## 2016 IEOM Awards – Detroit

September 24, 2016 (Lawrence Technological University)

### IEOM Global Diversity Award

- SIEMENS

### IEOM Spirit Award

- Lawrence Technological University

### IEOM Distinguished Industry Awards

1. **Mr. Carlo Materazzo**, Head of World Class Manufacturing (WCM) – Global, Fiat Chrysler Automobiles (FCA)
2. **Dr. Helmuth Ludwig**, Executive VP, Digital Enterprise Realization and Chief Manufacturing Officer - SIEMENS PLM
3. **Dr. Jeffrey Abell**, GM Technical Fellow, Lab Group Manager, Manufacturing Systems Research, General Motors Global Research and Development, Warren, Michigan
4. **Aaron Rubel**, Engineering Lead of Cabin & Cargo Standard Parts, Flammability Certification, & Mass Properties , Airbus Americas, Mobile, Alabama, USA
5. **Mr. Kevin Poet**, Plant Manager, Rawsonville Component Plant, Ford Motor Company, Ypsilanti Michigan
6. **John Fleming**, Executive VP Manufacturing and Labor Affairs (retired), Ford Motor Company
7. **Richard D. Shainin**, Executive Vice President, Shainin, The Red X Company, Washington, D.C., USA
8. **Mr. Larry Bennett**, Director of Engineering, Technology and Innovation, Eaton Corporation, Southfield, Michigan

### IEOM Distinguished Educator Awards

1. **Dr. Srinivas R. Chakravarthy**, Professor and Department Head, Industrial and Manufacturing Engineering, Kettering University, Flint, Michigan, USA
2. **Dr. Mark S. Daskin**, Clyde W. Johnson Collegiate Professor and Chair, Industrial & Operations Engineering, University of Michigan, Ann Arbor
3. **Dr. Hoda ElMaraghy**, Canada Research Chair (CRC) in Manufacturing Systems and Professor of Industrial & Manufacturing Systems Engineering Department, University of Windsor, Ontario, Canada
4. **Dr. Andrew K.S. Jardine**, Professor Emeritus, Industrial Engineering, University of Toronto, Canada
5. **Dr. Leslie Monplaisir**, Department Chair, Industrial and Systems Engineering, Wayne State University, Detroit, Michigan

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6. **Dr. Robert Van Til**, Professor and Chair, Industrial and Systems Engineering, Oakland University, Rochester, Michigan

### IEOM Distinguished Service Awards

1. **Steven Sibrel**, Sr. Supplier Quality Engineer, Harman International, Novi, Michigan
2. **Dr. Dan Steffy** (President - INFORMS Southeastern Michigan Chapter), Mathematics & Statistics, Oakland University
3. **Dr. Devdas Shetty**, School of Engineering and Applied Science, University of the District of Columbia, Washington, DC
4. **Professor Paul Nutter**, Associate Professor and Dept. Chair, Dept. of Technological Studies, Ohio Northern University, Ada, OH
5. **Dr. Mohammad Rahman**, Manufacturing & Construction Management, Central Connecticut State University
6. **Dr. Taufiqul Islam**, Conference Secretariat – IEOM Detroit Conference

### IEOM Industry Solutions Awards

1. **Edly Ferdin Ramly**, Certification Director, EFR Certification, Johor Bahru, Malaysia
2. **Mohammad Hijawi**, Technical Fellow - Powertrain Quality Reliability Engineering, Chair – FCA US Technical Council, Fiat Chrysler Automobiles (FCA), Auburn Hills, Michigan
3. **Prabhu Patil**, President & CEO, Prolim Corporation
4. **Mark Dolsen**, President, TRQSS, Tokai Rika Group, Tecumseh, ON, Canada

### IEOM Global Engineering Education Awards

1. **Dr. M. Abbot Maginnis**, Lean Systems Program Academic Coordinator & Director of Certificate Studies, University of Kentucky, Lexington, KY
2. **Adedeji B. Badiru**, Dean, Graduate School of Engineering and Management, Professor of Systems Engineering, AFIT/EN, Air Force Institute of Technology, Wright-Patterson Air Force Base, Dayton, Ohio, USA
3. **Dr. Walton Hancock**, Professor Emeritus Industrial and Operations Engineering and Professor Emeritus of Health Services, Management and Policy, University of Michigan, Ann Arbor, MI, USA

### IEOM Outstanding Service Awards

1. **Saso Krstovski**, Test Engineer, Ford Motor Company
2. **Mohammad Sadegh Mobin**, Western New England University, Springfield, MA, USA
3. **Dr. Rajendra Patil**, Professor at TSSM's Padmabhooshan Vasantdada Patil Institute of Technology Bavdhan, Pune, Maharashtra, India
4. **Dr. Chandra K Jaggi**, Professor, Department of Operational Research, Faculty of Mathematical Sciences, University of Delhi, Delhi - 110 007, India

### IEOM Woman in Industry and Academia Award

1. **Dr. Rashmi Jha**, Associate Professor, Gitarattan International Business School, Guru Gobind Singh Indraprastha University, New Delhi, India

### Outstanding Track Chair Awards

1. **Afshan Roshani**, Western New England University
2. **Mohammad Dehghani**, Northeastern University

### IEOM Ambassador Awards

**Dr. Abdur Rahim**, Professor of Quantitative Methods, Faculty of Business Administration, University of New Brunswick, Fredericton, NB, Canada

**Professor Don Reimer**, Lawrence Technological University,

### IEOM Special Diversity Award

**Hulas King**, Director of Diversity, Professional Affiliations and Global Community Relations, Siemens PLM Software, Maryland heights, MO

### IEOM Special Recognition Award

**Dr. Daw Alwerfalli, Professor and Director** Master of Engineering Management, A. Leon Linton Dept. of Mechanical Engineering, Lawrence Technological University

**Dr. Sree Raghavan**, Associate Professor, College of Management, Lawrence Technological University

**Dr. Yahaya Yusuf**, Director of the Institute of Logistics and Operations Management, University of Central Lancashire, UK

**Viktorii Butenko**, Karlsruhe Institute of Technology, Germany

**Odd Myklebust**, Department of Production and Quality Engineering, Norwegian University of Science and Technology, Norway

**Dr. Abdullah Alrabghi**, Industrial Engineering, University of Jeddah, Saudi Arabia

**Dr. Charles Mbohwa**, Professor and Vice-Dean Postgraduate Studies, Res. & Innovation, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

**Dr. Abdul Talib Bon**, UTHM- Malaysia

### Outstanding Student Awards

**Suvro Sudip**, IEOM Web Coordinator, Recent graduate of LTU (Double major – EE & CS)

**Venkata Rajasekhar Gandavarapu**, President – SME Student Chapter at LTU (MSIE)

**Ana Magana**, Student – B.S.I.E., Athletic Program - WOMEN'S GOLF, Lawrence Tech University

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

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

**Plasma Engineered Anti-Oxidant Surfaces as Novel Food Packaging Material**

Dominic Flaig and Ali R. Zand, Kettering University, Flint, MI

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

**Growth of Food Tech: A Comparative Study of Aggregator Food Delivery Services in India**

Mohan Khond, Mustafa Abbas, Harsh Balihallimath and Nishant Bidichandani, College of Engineering Pune, Maharashtra, India

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

**Continuous Improvement using Time Study and Lean Manufacturing - A Case Study**

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Ana Magana, Industrial Engineering Program, A. Leon Linton Dept. of Mech. Engineering, Lawrence Technological University

## Graduate Student Paper Competition Awards sponsored by EATON Corporation

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

#### **Optimization model for scheduling emergency operations with multiple teams**

Behrooz Bodaghi and Palaneeswaran Ekambaram, Swinburne University of Technology, Hawthorn, Victoria, Australia

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

#### **An ILP Model for Healthcare Facility Location Problem with Long Term Demand**

Ruilin Ouyang, Tasnim Ibn Faiz and Md Noor-E-Alam, Northeastern University, Boston, MA

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

#### **An Intuitionistic Fuzzy-Based DEMATEL to Rank Risks of Construction Projects**

Amin Vafadarnikjoo, Department of Management and Accounting, Allameh Tabataba'i University, Tehran, Iran  
Mohammadsadegh Mobin, Dept. of Industrial Engineering and Engineering Management, Western New England University, Springfield, MA, USA  
Seyyed Mohammad Ali Khatami Firouzabadi, Department of Management and Accounting, Allameh Tabataba'i University, Tehran, Iran

## Dissertation Presentation Competition Winner Awards

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

#### **Multi Objective Optimization of Distributed Energy Systems Considering Renewable and Fossil Fuel Resources**

Azadeh Maroufmashat, University of Waterloo, Canada

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

#### **Developing a new Iterative Optimization-based Simulation (IOS) model with Predictable and Unpredictable Trigger Events in Simulated Time**

Mohammad Dehghanimohammadabadi, Northeastern University, Boston, Massachusetts, United States

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

#### **Strategies and Techniques to Enhance Productivity in North American Automotive Industry**

Amir Abolhassani, West Virginia University, Morgantown, WV, United States

#### **Reliability Modeling and Optimization of New product Development Process**

Mohammadsadegh Mobin, Western New England University, Springfield, MA, United States

## Best Poster Awards

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

#### **Wasserstein distance and the distributionally robust TSP**

Mehdi Behroozi, University of Minnesota-Twin Cities  
John Carlsson, University of Southern California

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

#### **Applications of Lean Methodologies and Quality Improvement in Textile Industry**

Ahmad Yame and Daw Alwerfalli, Lawrence Technological University

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

#### **Stochastic Hierarchical Approach for Master Surgical Scheduling**

Mohammed Baki, Justin Britt, Ahmed Azab, and Ben Chaouch, University of Windsor, Canada  
Xiangyong Li, Tongji University, Shanghai, China

#### **Slack Variable Approach for Mixture Experiment**

Javier Cruz-Salgado, Research and Technological Development Dept., Universidad Politécnica del Bicentenario, Silao, Gto, México

### Best Track Papers Awards

Because of the diversity of the research, entries of real case examples and quality reporting in the papers, it was a very hard decision to select the finalists in each track by our panel of judges. After considering all entries the following papers were awarded for the IEOM Detroit 2016 Track Best Papers Awards. The awards will be presented at the award dinner of the IEOM Conference in Detroit on Saturday, September 24, 2016.

#### Artificial Intelligence

##### **ID 121 Path planning for a mobile robot using ant colony optimization and the influence of critical obstacle**

Jihee Han, Hyungjune Park and Yoonho Seo, Department of Industrial Management Engineering, Korea University, Seoul, South Korea

#### Manufacturing and Design

##### **ID 346 Design of an automatic tire pressure inflation system for small vehicles**

Tawanda Mushiri, Department of Mechanical Engineering, University of Johannesburg, South Africa  
Allan T. Muzhanje, Dept. of Mechanical Engineering, University of Zimbabwe, Mt Pleasant, Harare, Zimbabwe  
Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

#### Case Studies

##### **ID 250 An integrated MOEA and MCDM for multi-objective optimization (Case study: control chart design)**

Samrad Jafarian-Namin, Industrial Engineering Department, Faculty of Engineering, Yazd University, Yazd, Iran  
Mohamad Amin Kaviani, Department of Industrial Engineering, Shiraz branch, Islamic Azad University, Shiraz, Iran  
Elaheh Ghasemi, Aghigh Institute of Higher Education, Shahinshar, Isfahan, Iran

#### Construction Management

##### **ID 254 An Environmental Impact Framework for Evaluating Construction Projects Delays**

Richard Hannis Ansah, Shahryar Sorooshian and Shariman Bin Mustafa, Faculty of Industrial Management (FIM), Universiti Malaysia Pahang, Lebuhraya Tun Razak, Kuantan Pahang, Malaysia

#### Data Analytics

##### **ID 328 Data Analytics and Visualization in Analyzing Mortality Records**

Mehul R Patel and Md. Noor-E-Alam, Department of Mechanical and Industrial Engineering, Northeastern University, Boston, MA, USA

#### Decision Sciences

##### **ID 315 Supply Chain Resilience Assessment: A Grey Systems Theory Approach**

Mohamad Amin Kaviani, Department of Industrial Engineering, Shiraz branch, Islamic Azad University, Shiraz, Iran  
Mohammad Sadegh Mobin, Department of Industrial Engineering and Engineering Management, Western New England University  
Eleonora Bottani, Department of Industrial Engineering, University of Parma, Parma, Italy

#### Design and Analysis

##### **ID 284 Design of Experiments and Web Page Designs: Theories and Applications**

Lihui Shi, Centerfield Media, El Segundo, CA, USA  
Bo Li, School of Arts, Wuhan Sports University, Wuhan, Hubei, China

##### **ID 338 Predictive Control Design of Gas Turbine Using Multi-Objective Optimization Approach**

Kamal Jafarian, Biosignal Processing Lab, Department of Biomedical Engineering, Science and Research Branch, Islamic Azad University, Tehran, Iran

Mohammadsadegh Mobin, Department of Industrial Engineering and Engineering Management, Western New England University, Springfield, MA, USA

Zahra Honarkar, Department of Aerospace Engineering, Sharif University of Technology, Tehran, Iran

### **E-Business/E-Commerce**

#### **ID 258 Econometric models for decision making in IT services**

Martha M Cuellar Chavez, Faculty of the International Business, San Mateo Educación Superior, Bogotá, Colombia

Joaquín F Sánchez, Faculty of the Telecommunications Engineering, San Mateo Educación Superior, Bogotá, Colombia

### **e-Manufacturing**

#### **ID 233 Computer Aided Process Planning Approach for Cost Reduction and Increase in Throughput**

Omar Al-Shebeeb and Bhaskaran Gopalakrishnan, Department of Industrial and Management Systems Engineering, West Virginia University, Morgantown, WV, USA

### **Energy**

#### **ID 172 Experimental Analysis of Power Consumption in Ceiling Fan**

Rupesh Bhortake and Vaishali Bhortake, TSSM's PVPIT, Bavdhan, Pune, Maharashtra, India

### **Engineering Education**

#### **ID 042 Improving Quality of Technical Education by Quality Function Deployment (QFD)**

Mohan Khond, Shrinivas Patil, Swapnil Sonawane, Chaitanya Shrishrimal and Aarti Bhattu, College of Engineering Pune, Maharashtra, India

### **Engineering Management**

#### **ID 210 Investigating the relationship between team-working and production agility in manufacturing organizations**

Donya Nader & Abbas Mahmoudabadi, Department of Industrial Engineering, MehrAstan University, Gilan, Iran

### **Healthcare Operations and Services**

#### **ID 241 Process Improvement Approach to Investigate Low Block Utilization of Operating Rooms: A Case Study**

Omar Ashour and Faisal Aqlan, Industrial Engineering Department, Pennsylvania State University, The Behrend College, Erie, PA 16563, USA

Anne Pedersen, UPMC Hamot, Erie, PA 16550, USA

### **Lean**

#### **ID 239 An Investigation of Lean Manufacturing Implementation in Textile Industries of Pakistan**

Zahid Abbass Shah and Hadia Hussain, Institute of Quality and Technology Management, University of the Punjab, New Campus, Lahore, Pakistan

#### **ID 180 Effects of Human Stress on Reliability of Lean Systems – a Markovian Approach**

Roshanak Akram, Rupy Sawhney and Vahid Ganji, Department of industrial and Systems Engineering, University of Tennessee, Knoxville, TN, USA

### **Modeling and Simulation**

#### **ID 160 Design optimization of an electrolytic hydrogen for the Sarnia-Lambton upgrader**

Mohamed Elsholkami, Alexander McKenzie, Reena Paink, Kendra White, Ali Elkamel, and Michael Fowler, Department of Chemical Engineering, University of Waterloo, Waterloo, Ontario, Canada

#### **ID 161 Design optimization of a microreactor for the production of biodiesel**

Mohamed Elsholkami, Timothy Cumberland, Nathan Molyneaux, Stephen Wei, Nicolo Zambito, Ali Elkamel, and Chandra Mouli Madhuranthakam, Department of Chemical Engineering, University of Waterloo, Waterloo, Ontario, Canada

### Operations Research

#### **ID 184 An optimization model for scheduling emergency operations with multiple teams**

Behrooz Bodaghi and Ekambaram Palaneeswaran, Faculty of Science, Engineering and Technology, Swinburne University of Technology, Hawthorn, Victoria, Australia

### Project Management

#### **ID 234 Considering the time value of money for modeling the risk assessment of cost and time components in construction projects**

Abbas Mahmoudabadi, Department of Industrial Engineering, MehrAstan University, Gilan, Iran  
Roghaye Mousazade, Construction Engineering and Management, Islamic Azad University, Branch of South Tehran, Tehran, Iran

### Quality

#### **ID 326 Optimisation in Cutting Down Parameters for Industrial Bamboo**

Hari Agung Yuniarto and Mrs. Kurniawanti, Industrial Engineering, Faculty of Engineering, Universitas Gadjah Mada, Yogyakarta, Indonesia, 55281.

### Reliability

#### **ID 165 Reliability Modeling for Rotor Systems with Imbalance Based on Vibration Analysis**

Mohamed Shafiullah Hussain V, National Institute of Foundry and Forge Technology, Ranchi, Jharkhand  
V N A Naikan, Indian Institute of Technology, Kharagpur, West Bengal, India

### Six Sigma

#### **ID 303 Optimization of Thermal Profile Process in Assembly Line of Printed Circuit Boards (PCB) Using Design of Experiments**

Kamal Alzamel and Daw Alwerfalli, Lawrence Technological University, Southfield, Michigan, USA  
Ahmed Alsamarai, Product Development Center, Ford Motor Company, Dearborn, Michigan, USA

### Sustainability and Green Systems

#### **ID 251 Warranty Analysis of Remanufactured Electrical Products**

Wilkistar Otieno and Yuxi Liu, Department of Industrial and Manufacturing Engineering, University of Wisconsin-Milwaukee, Milwaukee, WI, USA

### Transportation and Traffic Track

#### **Public Transport Development Strategy in Supporting Centres Industrial Area at the Mamminasata Corridor**

Adris.A.Putra, Usman Rianse, Samdin, and La Ode Muh Magribi, Haluoleo University, Kendari, Indonesia