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IEOM Society INTERNATIONAL

IEOM

Third North American International Conference

on Industrial Engineering and Operations Management,

Washington, DC

SEPTEMBER 27–29, 2018

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IEOM Society

"Achieving and Sustaining Operational Excellence"

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IEOM Society International

Welcome to the Third North American IEOM Conference in Washington, DC

To All Conference Attendees:

On behalf of the IEOM Society International, we would like to welcome you to Washington, DC, USA, the University of the District of Columbia (UDC) and the **Third North American International Conference on Industrial Engineering and Operations Management**. This unique international conference provides a forum for academics, researchers and practitioners from many industries to exchange ideas and share recent developments in the field of industrial engineering and operations management. This diverse international event provides an opportunity to collaborate and advance the theory and practice of major trends in industrial engineering and operations management. There were close to 550 papers/abstracts submitted from 60 countries and after a thorough peer review process, approximately 350 have been accepted .The program includes many cutting edge topics of industrial engineering and operations management.

This conference will address many of the issues concerning continuous improvement for quality and service. Our keynote speakers will address some of these issues:

- Ronald Mason, Jr., J.D., President, University of the District of Columbia, Washington, DC
- Dr. Bruce Kramer, Senior Advisor, NSF
- John H. James, Jr., Executive Director, Missile Defense Agency
- Dr. Claudia Rankins, Program Officer, Directorate for Education and Human Resources, NSF
- Dr. Pamela McCauley, Program Director, Innovation Corps-National Innovation Network Sites Program, NSF and Professor and Director of the Ergonomics Laboratory, Department of Industrial Engineering and Management Systems, University of Central Florida
- Dr. Russell R. Barton, Distinguished Professor of Supply Chain and Information Systems, Smeal College of Business, The Pennsylvania State University, University Park and Vice President, INFORMS Sections and Societies
- Dr. Jack L. Price, Director of Research, Naval Surface Warfare Center, USA
- Professor Cecilia Nembou, President and Vice-Chancellor, Divine Word University, Papua New Guinea
- Dr. Jose Luis Guerrero-Cusumano, Associate Professor of Operations and Information Management, McDonough School of Business, Georgetown University, Washington, DC
- Veronica L. Nelson, Executive Director, Advancing Minorities' Interest in Engineering (AMIE), Washington, DC
- Dr. Rupy Sawhney, Professor and Heath Fellow in Business & Engineering, Department of Industrial and Systems Engineering, and Executive Director of Center for Advanced System, Research and Education, University of Knoxville, TN
- Dr. Abby Ilumoka Nwabizour, Program Director, Engineering Education, NSF

We will continue to offer special session on Global Engineering Education Series. This session will feature distinguished speakers who will discuss the workforce readiness. 30 featured speakers will address engineering education challenges and opportunities.

The Industry Solutions Track will address industry needs in order to survive in the competitive environment. Distinguished practitioners will share their experiences and journey.

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

We would also like to thank the students who are participating in this event. Your Conference Organizing Committee wants to welcome you to Washington, DC and wishes you an enjoyable learning experience at the conference and the capitol of USA. We hope you a safe and memorable adventure exploring Washington, DC.

Enjoy the conference!

Professor Devdas Shetty
Conference Co-Chair
Dean, College of Engineering and Applied Sciences
University of the District of Columbia
Washington, DC, USA

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

Ronald Mason, Jr., J.D.
President

September 18, 2018

Welcome from the President of the University of the District of Columbia

On behalf of the University of the District of Columbia (UDC) it is my pleasure to welcome this year's Industrial Engineering and Operations Management Society (IEOM 2018) conference. As the only public university in the nation's capital and the only exclusively urban land-grant institution in the country, UDC shares your vision of enhanced academic opportunities for our students.

The theme of this conference is very much aligned with UDC's core values of excellence, collaboration, sustainability, innovation and integrity. It also supports our mission to build a diverse generation of competitive, civically engaged scholars and leaders.

As you gather to discuss higher education initiatives and work to develop strategies to assure that the STEM workforce pipeline has diverse and exceptional talent, please enjoy the amenities of our LEED Platinum Student Center and be sure to visit our College of Arts and Sciences; College of Agriculture, Urban Sustainability and Environmental Sciences; College of Arts and Sciences; School of Business and Public Administration; David A. Clarke School of Law; and your host college, the School of Engineering and Applied Sciences, to learn more about our cutting-edge research in biomedical engineering, homeland security, computer science, and our high-quality academic programs in various STEM-related fields.

Again, welcome to Firebird Nation!

Ronald Mason, Jr., J.D.
President
University of the District of Columbia

Conference Program

September 26, 2018 (Wednesday)
13:00 – 20:00 Registration - Building 42, Conference Room 212M
20:00 – 22:00 IEOM Meetings - TBD

All Keynotes at Student Center Ballroom

September 27, 2018 (Thursday)
07:00 – 17:00 Registration - Student Center Ballroom Lobby

09:30 – 10:00 *Welcome Address*: **Ronald Mason,** Jr., J.D., The University of the District of Columbia, Washington D.C.

10:00 – 11:00 *Opening Keynote*: **Dr. Bruce Kramer**, Senior Advisor, National Science Foundation

11:00 – 11:30 Networking Break - Student Center Ballroom Lobby

11:30 – 12:15 *Keynote II*: **Dr. Pamela McCauley,** Program Director – Innovation Corps- National Innovation Network Sites Program (I-Corps Sites), National Science Foundation and Professor and Director of the Ergonomics Laboratory, Department of Industrial Engineering and Management Systems, University of Central Florida

12:15 – 13:00 *Keynote III*: **Dr. Russell R. Barton**, Distinguished Professor of Supply Chain and Information Systems, Smeal College of Business, Pennsylvania State University, University Park, PA, USA and Vice President, INFORMS Sections and Societies

13:00 – 14:30 Lunch Buffet - Student Center Ballroom
13:40 – 14:00 *Tuesday Lunch Keynote*: **Dr. Jack L. Price,** Director of Research, Naval Surface Warfare Center, USA

14:30 – 16:00 Parallel Sessions - Rooms 1-7
16:00 – 16:30 Networking Break - Student Center Ballroom Lobby
16:30 – 18:00 Parallel Sessions - Rooms 1-7
18:00 – 19:30 Poster Session and Student Chapter Mixer - Student Center Ballroom

September 28, 2018 (Friday)
07:00 – 17:00 Registration - Student Center Ballroom Lobby
08:00 – 18:00 Lean Six Sigma (LSS) Workshop – Room 2
08:00 – 09:30 Parallel Sessions – Rooms 1-7

09:40 – 10:20 *Friday Morning Keynote I*: **Dr. Jose Luis Guerrero-Cusumano**, Associate Professor of Operations and Information Management, McDonough School of Business, Georgetown University, Washington D.C., USA

10:20- 11:00 *Friday Morning Keynote II*: **John H. James**, Jr., Executive Director, Missile Defense Agency

11:00 – 11:30 Networking Break - Student Center Ballroom Lobby
11:30 – 13:00 Parallel Sessions - Rooms 1-7
13:00 – 14:30 Lunch Buffet - Student Center Ballroom
13:40 – 14:00 *Friday Lunch Keynote*: **Professor Cecilia Nembou,** President and Vice-Chancellor, Divine Word University, Papua New Guinea

14:30 – 16:00 Parallel Sessions - Rooms 1-7
16:00 – 16:30 Networking Break - Student Center Ballroom Lobby
16:30 – 18:00 Parallel Sessions - Rooms 1-7

18:30 – 21:30 ***CONFERENCE AWARDS DINNER***

September 29, 2018 (Saturday)
07:00 – 17:00 Registration - Student Center Ballroom Lobby
08:00 – 09:30 Parallel Sessions - Rooms 1-7
08:00 – 09:30 and 11:30 – 1:00 High School and Middle School STEM Poster Competition - Student Center Ballroom

09:40 – 10:20 *Saturday Morning Keynote I*: **Veronica L. Nelson**, Executive Director, Advancing Minorities' Interest in Engineering (AMIE), Washington D.C.

10:20 - 11:00: *Saturday Morning Keynote II*: **Dr. Rupy Sawhney**, Professor and Heath Fellow in Business & Engineering Department of Industrial and Systems Engineering and Executive Director of CASRE, University of Knoxville, Tennessee, USA

11:00 – 11:30 Networking Break - Student Center Ballroom Lobby
11:30 – 13:00 Parallel Sessions - Rooms 1-7
13:00 – 14:30 Lunch Buffet - Student Center Ballroom
13:40 – 14:00 *Saturday Lunch Keynote*: **Dr. Abby Ilumoka Nwabizour,** Program Director, Engineering Education, NSF

14:30 – 16:00 Parallel Sessions - Rooms 1-7
16:00 – 16:30 Networking Break - Student Center Ballroom Lobby
16:30 – 18:00 Parallel Sessions - Rooms 1-7

Keynote Speakers

9:30 am, Thursday, September 27, 2018 – Welcome Addresses

Ronald Mason, Jr., J.D.

President, The University of the District of Columbia
Washington D.C.

Ronald Mason, Jr., J.D., began his tenure as the ninth president of the University of the District of Columbia on July 1, 2015. His reputation for strong leadership and responsible governance is bolstered by more than 30 years of experience in the higher education, community development, and legal fields.

Former UDC Board Chair Elaine A. Crider describes Mason as a proven, highly motivated and accomplished administrator who is exceptionally and uniquely suited to build upon the successes that the University has achieved in recent years.

"Mr. Mason has proven himself a leader in the higher education community in many parts of the country," says Crider. "He has brought enhanced community relationships, responsible governance, and a strong students-first focus to his past roles and will do the same for the University of the District of Columbia as we continue to implement the goals and objectives of our "Vision 2020" strategic plan."

Prior to being appointed president of the University of the District of Columbia, Mr. Mason was the seventh president of the Southern University and A&M College System, where he served a five-year term as the chief executive officer of the nation's other Historically Black College and University System and provided oversight for the System's five campuses.

Serving as Southern University's president during a period of severe budget cuts, Mason improved human and technology infrastructures, established online degree options, and led the campuses through a difficult transition process. Moreover, concerned about the social and economic barriers that stand in the way of educational opportunities for the underserved and black men in particular, Mason spearheaded an initiative titled the "Five-Fifths Agenda for America." Its goals are to bring truth to the conversation about the relationship between America and black men, increase the number of college degrees among black men, and increase the number of black male teachers.

Before joining the Southern University System, Mason was president of Jackson State University (MS). Under his leadership, Jackson State experienced unprecedented growth in areas of fundraising, information technology proficiency, and the construction of new buildings. Earlier in his career, President Mason developed a successful record of progressive leadership in various positions over an 18-year period at Tulane University in New Orleans, including senior vice president, general counsel, and vice president for finance and operations. He also served as the founder and executive director of the National Center for the Urban Community at Tulane and Xavier Universities.

Among his numerous public service and professional activities, Mr. Mason holds current membership on the White House Board of Advisors for Historically Black Colleges and Universities and the Board of Directors of the Thurgood Marshall College Fund. He also serves on the Board of the American University of Nigeria and the International Foundation for Education and Self Help. His previous board service includes the American Council on Education and the National Advisory Committee on Institutional Quality and Integrity, Office of Postsecondary Education. A native of New Orleans, President Mason received his B.A. and J.D. degrees from Columbia University in New York City. He attended the Harvard Institute of Educational Management and is the recipient of the Mayor's Medal of Honor from the City of New Orleans, the Martin Luther King Lifetime Achievement Award from Dillard, Loyola, Tulane, and Xavier universities, and was one of five recipients of Columbia University's 2008 John Jay Award for distinguished alumni.

10:00 am, Thursday, September 27, 2018 – Opening Keynote

Dr. Bruce Kramer

Senior Advisor
National Science Foundation

BRUCE KRAMER is a graduate of MIT (S.B., S.M., Ph.D) and has served on the faculties of Mechanical Engineering of MIT and George Washington University. He is currently a Senior Advisor at the NSF, coordinating NSF's participation in the National Advanced Manufacturing Program. Dr. Kramer previously directed NSF's Divisions of Design, Manufacture and Industrial Innovation and Engineering Education and Centers. He co-founded Zoom Telephonics of Boston, a NASDAQ company and producer of communications products marketed under the Zoom and Motorola brands, holds three U.S. patents, and is a Fellow of the SME and an International Fellow of the School of Engineering of the University of Tokyo. He has received the F.W. Taylor Medal of CIRP, the ASME Blackall Award, and the R.F. Bunshah Medal of the ICMC for his contributions to manufacturing research and the Distinguished Service Award, the highest honorary award granted by the National Science Foundation.

Rethinking Manufacturing as a Search-Based Service

Many industries have been transformed by network-enabled tools that give users easy access to service providers, but manufacturing services too frequently depend on expert intervention and designer-to-fabricator negotiations. The presentation will attempt to reframe design as a process that can be driven by an intelligent search of the existing store of parts that have already been manufactured. That store incorporates the cumulative expertise of all the designers and manufacturing engineers who worked on them and each part has a detailed 3D geometrical description, an associated manufacturer and a proven process plan that can be depended on to execute reliably with small parametric variations. An effective search strategy would be a critical breakthrough that resolves longstanding and critical problems with the prevailing generative view of design and manufacturing, which depends on perfecting software systems that unambiguously translate the designs of expert designers into the associated

machine instructions for producing them. It is suggested that the search-based approach provides an interesting challenge for the machine learning community.

11:30 am – 12:15 pm, September 27, 2018 – Thursday Keynote I

Dr. Pamela McCauley

Program Director-Innovation Corps-National Innovation Network Sites Program (I-Corps Sites)
National Science Foundation
Professor and Director of the Ergonomics Laboratory
Department of Industrial Engineering and Management Systems
University of Central Florida

"Industrial Engineering: The Education for Innovators"

Dr. Pamela McCauley is a biomechanics expert, a Professor and Director of the Ergonomics Laboratory in the Department of Industrial Engineering and Management Systems at the University of Central Florida, and an internationally acclaimed keynote speaker and popular author on a lifelong mission to increase diversity in Innovation and STEM.

An award-winning educator often described as an outstanding professor and enthusiastic teacher, Dr. McCauley previously held the position of Martin Luther King, Jr. Visiting Associate Professor of Aeronautics and Astronautics at the Massachusetts Institute of Technology. Her teaching efforts have resulted in the receipt of both the College of Engineering Award for Excellence in Undergraduate Teaching and the Teaching Incentive Program Award (TIP). She is also the recipient of the National 2015 Black Engineer of the Year Award for Educational Leadership and the Promotion of College-Level Education.

Dr. McCauley is the author of over 100 technical papers, book chapters, conference proceedings and the best-selling 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, which examines the growing need for leadership and innovation, particularly among women and STEM professionals.

Her newest book, The Essentials of Engineering Leadership and Innovation, is underpinned by years of applied experience in engineering settings, and is designed to develop and prepare engineers as leaders to accept the technical and managerial challenges that they will face as professionals. To inspire students, particularly minorities and females, to consider careers in STEM she authored, Winners Dont QuitToday they Call Me Doctor, in which she shares her challenging yet inspirational journey to engineering success despite financial, academic, and personal difficulties.

The U.S. State Department selected Dr. McCauley for the prestigious Jefferson Science Fellowship Program in 2015. Jefferson Science Fellowships are distinguished appointments to senior academics based on their stature, recognition, and experience in the national and international scientific or engineering communities, and their ability to rapidly and accurately understand scientific advancements outside their discipline area to effectively integrate this knowledge into U.S. Department of State/USAID policy discussions. Dr. McCauley also has the distinction of being a 2012 U.S. Fulbright Scholar Specialist Program Awardee for her US-New Zealand Human Engineering and Mobile Technology in High Consequence Emergency Management Research Program.

In addition to her academic appointments, Dr. McCauley is a seasoned entrepreneur. As a highly sought expert witness, she applies ergonomics, biomechanics, physics and human engineering principles to support cases nationwide. She has also led start-up companies for the past 20 years developing human factors centric services and software products to support corporations, the Department of Defense, NASA and universities throughout the nation.

Over the past twenty-five years, Dr. McCauley has held various leadership positions and has received numerous awards in recognition of her commitment, professional accomplishments and community outreach efforts in the business, technology, and education communities. She has received the Distinguished Alumni Award from the University of Oklahoma, the Engineer of the Year Award from the Florida Engineering Society, and has been recognized by the Society of Women Engineers as Engineering Educator of the year, and as the Millennium Woman of the Year by the Millennium Woman Foundation.

12:15 pm – 1:00 pm, September 27, 2018 – Thursday Keynote II

Dr. Russell R. Barton

Vice President, INFORMS Sections and Societies, Fellow, IISE
Distinguished Professor of Supply Chain and Information Systems
Smeal College of Business
The Pennsylvania State University
University Park, PA, USA

"Understanding Input Uncertainty in Operations Models"

Russell Barton is Distinguished Professor of Supply Chain and Information Systems in the Smeal College of Business at Penn State, and was senior associate dean from 2013-1018. He holds a courtesy appointment in the Department of Industrial and Manufacturing Engineering. From 2010-2012 was Program Director for Manufacturing Enterprise Systems and Service Enterprise Systems at the U. S. National Science Foundation. From 2006-2010 he was Co-Director of the Master of Manufacturing Management degree program at Penn State. From 2002-2005 he served as Associate Dean for Research and Ph.D./M.S. Programs in the Smeal College of Business. He was a professor in the Department of Industrial and Manufacturing Engineering at Penn State for eleven years prior to joining Smeal. He began his academic career at Cornell University in the School of Operations Research and Industrial Engineering after eleven years in industry and consulting. Dr. Barton has taught courses in operations management, new product

development, optimization, statistics and quality, and simulation at the undergraduate and graduate levels. He has received seven awards for teaching and curriculum development. He holds a B.S. in electrical engineering from Princeton University, and M.S. and Ph.D. degrees in operations research from Cornell University. Dr. Barton's research has focused on the interface between applied statistics, simulation, and product design and manufacturing. He has received thirty grants supporting research and teaching, including ten from the National Science Foundation. He has 150 technical publications. He serves as associate editor for Operations Research and the IMA Journal of Management Mathematics. He is Vice President of INFORMS Sections and Societies, Chair of the INFORMS Subdivisions Council and a member of the INFORMS Board of Directors. He is a Fellow of IISE and Senior Member of IEEE. His is a Certified Analytics Professional, and serves on the Analytics Certification Board.

1:00 pm – 2:30 pm, September 27, 2018 – Networking LUNCH Buffet (Thursday Lunch Keynote: 1:40 – 2:00 pm)

Jack L. Price, Ph.D.

Director of Research
Naval Surface Warfare Center, USA

9:40 am – 10:20 am, September 28, 2018 – Friday Morning Keynote I

Dr. Jose Luis Guerrero-Cusumano

Associate Professor of Operations and Information Management
McDonough School of Business
Georgetown University
Washington D.C., USA

Jose-Luis Guerrero-Cusumano holds a Ph.D. in Industrial and Mechanical Engineering from the University of Illinois and a Master of Sciences in Statistics from the Mathematics Department of the University of Illinois. He is also an Economics Statistician from the School of Economics Science, Rosario University, Argentina. Jose-Luis Guerrero-Cusumano is a Tenured Associate Professor at the Georgetown University School of Business. Prof. Guerrero-Cusumano has been a member of the faculty at Georgetown since 1989 in the School of Business. He is also the recipient of the Gold Medal for service at Georgetown University. Professor Guerrero-Cusumano was the Academic Director of the Corporate International Master's at the Georgetown University School of Business (2012-2017). He is former co-Director of the International Institute on Government, Management, and Policy at Georgetown University.

In 2008, Professor Guerrero-Cusumano was awarded an Honorary Doctorate, Doctor Honoris Causa in Administration by Ovidius University (Romania). Also in 2008, he was elected Fellow at the Judge Business School, Cambridge University, England. In 2017, he was recognized by the International Institute for Applied Knowledge Management with the Fellow & Distinguished Scholar Award. Among his research areas are Big and Small Data, Data Mining, Text Mining, International Business, Social Responsibility, Business Forecasting, Six Sigma and Quality Improvement.

In 2017, he was the Co-Chair of the international conference on Responsible Organizations in the Global Context. He was also the Deputy Director and Executive Editor of the journal Globalization, Competitiveness and Governability, Spain, 2007-2011. Dr. Guerrero-Cusumano has published over fifty articles in leading journals. Prof. Guerrero-Cusumano has been a member of the faculty at Georgetown since 1989 in the School of Business. He is also the recipient of the Gold Medal for service at Georgetown University. Professor Guerrero Cusumano was the deputy Director and Executive Editor of the journal Globalization, Competitiveness and Governability, Georgetown U-Universia, Spain, 2007-2011.

Professor Guerrero-Cusumano was also the Vice-president of the Latin American Foundation for Quality and he is also a founding member of The Multinational Alliance for the Advancement of Organizational Excellence (MAAOE). In February 2004, he was the technical chairperson for the 3rd Latin American Quality Conference held in Managua, Nicaragua. He was also a member of the International think Tank on Quality and Social Responsibility for the American Society for Quality.

He won the Belgian-American foundation research grant 1995, and spent Spring 1995 as a visiting professor at Institut d'Administration et de Gestion (IAG), Université Catholique de Louvain, Louvain-La-Neuve (Belgium) and at Vesalius College (Vrije Universiteit), Brussels. In the fall 1997, Professor Guerrero-Cusumano spent his sabbatical year at Ghent University (The Vlerick School of Business), Ghent, Belgium as an invited professor, where he researched European Quality Certifications for Academic Institutions. In spring 2006, he was invited by Escuela Superior de Administración y Dirección de Empresas (ESADE) in Barcelona, where he spent part of his sabbatical.

Professor Guerrero-Cusumano has also lectured widely internationally. He is also a researcher at "Laboratoire de Recherche en Management" (University of Versailles, France) in the area of Comprehensive Management, Quality and Innovation. He has lectured at European Quality Master Program system (Versailles University, France; University of Limerick, Ireland; Tor Vergata University, Rome, Italy; University of Piraeus, Athens, Greece; Universidad Complutense, Madrid, Spain), the Master of Total Quality Management (Vaxjo University, Vaxjo, Sweden), the Master of Quality Management (Hebrew University, Jerusalem, Israel), and the Master of Industrial Engineering (Ghent University, Ghent, Belgium) as an invited professor.

Dr. Guerrero-Cusumano was an examiner for the American National Science Foundation in the areas of "Transformations to Quality Organizations Program", the "Production and Operations Research Program" and "the Innovation and Organizational Change Program". Also, Professor Guerrero-Cusumano served as an examiner for the American National Research Council in the area of Benchmarking and for Institute of International Education. Internationally, Professor Guerrero-Cusumano was an examiner for the European Foundation for Quality Management (E.F.Q.M.). He is a member of the Consumer Interest Forum of the American National Standards Institute.

He has been an external judge for several Ph.D. thesis defenses for prestigious international universities as well as a reviewer for many publications such as Management Science, the Journal of Multivariate Analysis, Information Sciences, etc. Professor Guerrero-Cusumano has been a plenary speaker in many conferences around the world and has appeared repeatedly in the media, such as America's Voice, French TV5, National Public Radio, the international Spanish channel Univision, the Voice of America and CNN international and Jim Lehrer's News Hour. He speaks seven languages fluently (Dutch, English, French, German, Italian, Portuguese, and Spanish).

10:20 am – 11:00 am, September 28, 2018 – Friday Morning Keynote II

John H. James, Jr.

Executive Director
Missile Defense Agency

Mr. James became the Executive Director of the Missile Defense Agency (MDA), Office of the Secretary of Defense, in May 2011. He is the senior civilian advisor to the MDA Director on all issues relating to MDA operational and management activities. Mr. James provides oversight, leadership, direction and guidance to the MDA staff, ensuring the effective organization and integration of all functions required to sustain an effective Ballistic Missile Defense program. He also serves as a key interface to the Office of the Secretary of Defense, the Services, and the Congress.

Mr. James is a strong and active proponent of DoD, Navy, and NAVSEA initiatives to motivate the future workforce to pursue education and careers in the areas of science, technology, engineering and mathematics (STEM). He is a member of the White House Advisory Group on SES Reform, is a member of the DoD STEM Executive Committee, and is a mentor for the Defense Senior Leader Development Program.
Mr. James previously served as the Director, National Security Personnel System (NSPS) Transition Office, within the Office of the Secretary of Defense from January 2010 to May 2011. He was directly responsible for the Congressional mandate to transition approximately 228,000 employees from NSPS to an alternate personnel and pay system. He worked for the Department of the Navy for more than 29 years, helping to construct and maintain the Nation's surface ship and submarine fleets. He was selected for the Senior Executive Service in May 2000.

During his tenure with the Navy, Mr. James was assigned to the Norfolk Naval Shipyard, Naval Sea Systems Command (NAVSEA) headquarters and staff of the Chief of Naval Operations. His first assignment as a Senior Executive was as Deputy Program Manager for Strategic and Fast Attack Submarines and then as Program Manager for Submarine Repair and Overhaul. He also served as NAVSEA's Executive Director for the Undersea Warfare Directorate and Executive Director, Logistics, Maintenance and Industrial Operations Directorate.

Awards include SECDEF Meritorious Civilian Service Award (2017), Distinguished Executive Presidential Rank Award (2013), African American Federal Executive Association Distinguished Senior Executive Service award (2011), Black Engineer STEM Senior Executive Service award (2011), DoN Superior Civilian Service Award (2010), NSBE Golden Torch Award for Lifetime Achievement in Government (2007), Meritorious Executive Presidential Rank Award (2006), Black Engineer of the Year Award – Special Recognition (2004), DoN Nathaniel Stinson Equal Employment Opportunity Award for Leadership (2004), David Packard Excellence in Acquisition Award, and Assistant SECNAV (Research, Development and Acquisition) Certificate of Excellence for Success in Acquisition Reform.

Mr. James received his undergraduate degree from Howard University and Master's Degree from Florida Institute of Technology. He attended the Harvard School of Business and the Keenan-Flagler Business School, and is a member of the Acquisition Professional Community.

1:00 – 2:30 pm, September 28, 2018 – Networking LUNCH Buffet

1:40 – 2:00 pm Friday Lunch Keynote

Professor Cecilia Nembou

President and Vice-Chancellor
Divine Word University, Papua New Guinea

Systems Thinking Applied in a University

Professor Cecilia Nembou is the President and Vice Chancellor of the Divine Word University (DWU) in Papua New Guinea, and Professor of Higher Education Leadership and Management. She is based in Port Moresby and supervises the leadership and management functions of the DWU Port Moresby campus as well as the rest of DWU system across 5 campuses. She holds a BSc in Mathematics from the University of Papua Guinea (1975), MSc in Operational Research from the University of Sussex (UK, 1978) and PhD in Operations Research from the University of New South Wales (Sydney, Australia, 1992). She has held various academic and senior management positions at the University of PNG, University of Wollongong in Dubai and at the Divine Word University over a period spanning 40 years. Professor Nembou's research interests include, systems thinking, strategic planning, leadership and management, and analytics in higher education.

Professor Nembou is a regular member of INFORMS and member of the IEOM Technical Committee. She has served on various committees and Councils of Universities as well as on Boards of State Statutory organizations, and Boards of commercial and non-government organizations in Papua New Guinea. She is a former Head of Mathematics Department, Executive Dean of the School of Natural and Physical Sciences, Pro Vice Chancellor Planning and Development and Acting Vice Chancellor at the University of Papua New Guinea; Academic Registrar and Senior Lecturer at the University of Wollongong in Dubai, and Deputy President of the Divine Word University. She commenced her new role as President and Vice Chancellor of DWU on 20 January 2016.

7:00 pm – 10:00 pm, Friday, September 28, 2018 – Conference Awards Dinner Keynote

Dr. Claudia Rankins

Program Officer
Directorate for Education and Human Resources
National Science Foundation
Alexandria, Virginia, USA

Claudia Rankins is a Program Officer in the Directorate for Education and Human Resources at the National Science Foundation, where she manages the Historically Black Colleges and Universities Undergraduate Program and the Centers for Research Excellence in Science and Technology. Prior to this post, Dr. Rankins served at Hampton University for 22 years in a number of capacities, including endowed university professor, chair of the department of physics, assistant dean for research, and dean of the School of Science.

Her formal education includes military training, certification as translator and interpreter for German, French and English, a B.S. in Mathematics from Christopher Newport University, an M.S. in Statistics from Old Dominion University, an M.S. in Physics and a Ph.D. in Physics both from Hampton University.

Dr. Rankins is an advocate for STEM education and research at Historically Black Colleges and Universities. Her current research interests center around the history of STEM at these institutions. Her research in theoretical particle physics focused on the development of a model to describe distribution amplitudes and form factors of pseudoscalar mesons. Dr. Rankins is the co-founder of the Society of STEM Women of Color, Inc.

9:40 am – 10:20 am, September 29, 2018 – Saturday Morning Keynote I

Veronica L. Nelson

Executive Director
Advancing Minorities' Interest in Engineering (AMIE)
Washington D.C.

Veronica Nelson is the Executive Director of Advancing Minorities' Interest in Engineering (AMIE). AMIE is a coalition of corporations, government agencies and the fifteen (15) ABET accredited Engineering Schools at Historically Black Colleges and Universities (HBCU). Her role is to lead AMIE as we develop strategies to expand corporate, government and academic partnerships to implement and support programs to attract, educate, graduate and place minority students in engineering careers and increase diversity in the engineering workforce. Veronica has over 18 years of experience in process engineering developing Automated Assembly Processes and over 9 years of experience in Engineering Management and Human Resources managing Career Pathways Programs, Diversity Recruiting, Professional Development Rotation Programs, Intern Programs and University Relations & Recruiting at Northrop Grumman Corporation. Veronica recently served as a Senior Associate at Booz Allen Hamilton responsible for developing, managing and implementing firm-wide Strategies for University and Diversity Recruiting.

Veronica was awarded the 2009 Black Engineer of the Year Award for Educational Leadership – Promotion of Higher Education and the 2007 Women of Color in Technology Award for Educational Leadership – Corporate Promotion of Education for her passion and dedication to promoting Science, Technology, Engineering and math (STEM). Veronica earned her Bachelor's degree in Mechanical Engineering from Fairleigh Dickinson University and her Master's degree in Mechanical Engineering with a concentration in Robotics from Howard University. She received the National GEM Consortium Fellowship and was the first female to obtain her Master's degree in Mechanical Engineering from Howard University. Veronica is married and the proud mother of two sons who have followed her passion and are pursuing degrees in Engineering.

10:20 am – 11:00 am, September 29, 2018 – Saturday, Morning Keynote II

Dr. Rupy Sawhney

Professor and Heath Fellow in Business & Engineering
Department of Industrial and Systems Engineering
Executive Director of CASRE (Center for Advanced System, Research and Education)
University of Knoxville, Tennessee, USA

Rupy Sawhney earned B.S. and M.S. in Industrial Engineering and Ph.D. degrees in Engineering Science and Mechanics from the University of Tennessee, Knoxville in 1981, 1984 and 1991 respectively. Currently he is a Professor in Industrial and Systems Engineering at the University of Tennessee, Knoxville; Heath Fellow in Business and Engineering; Professor in Interdisciplinary Program in Energy; Joint Appointment with the Y12 National Security Complex; and Visiting Professor at University of Loughborough UK. He was a Weston Fulton Professor and Department Head during 2010-2013. His current research focuses on innovative ideas to enhance operational excellence in complex systems. He has decomposed his research into three components (i) manufacturing intelligence, (ii) organizational intelligence, and (iii) people based design. Furthermore, Dr. Sawhney has assembled a team over the past five years that has a greatest critical mass within the history of the Industrial Engineering department to compete with other academic institutions in the lean area. His research group at this moment consists of 40 Postdocs, Ph.D. and Master students. He has published significant journal papers, conference papers and has submitted for 5 patents. He has graduated more than 50 Master's and 8 Ph.D. students. His funded research projects are in the millions of dollars. He has worked with over 200 companies and is a recipient of various awards (Boeing Welliver Fellow, Alcoa Faculty Award, IIE Lean Teaching Award, Reuben Harris Award, and Accenture Teaching Excellence Award).

1:00 – 2:30 pm, September 29, 2018 – Networking LUNCH Buffet

1:40 – 2:00 pm - Saturday Lunch Keynote

Dr. Abby Ilumoka Nwabizour

Program Director, Engineering Education
National Science Foundation

Dr. Abiodun (Abby) Ilumoka currently serves as program director for engineering education in the Division of Undergraduate Education (DUE) at NSF. She is lead program director for the DUE engineering team and one of the co-leads for the Improving Undergraduate STEM Education (IUSE) program.

Prior to joining NSF, Dr. Ilumoka received the Bachelor of Science degree in Physics and Chemistry from the University of Aston in Birmingham, England in 1976, the Master's degree in Electronics from the University of Southampton, England in 1978 and the Ph.D. in electrical engineering from Imperial College London, England in 1982. Following this, she continued with postdoctoral work at Imperial College and later lectured at Brunel University, Uxbridge, UK. After a brief stint in academia and the telecommunications industry in Nigeria – her country of birth – in 1992, she joined the faculty at the College of Engineering, University of Hartford in Connecticut.

Her research interests have ranged from microelectronic circuit optimization to AI-based tunable microwave filter synthesis and complex adaptive systems design. She authored many journal publications and conference articles and received research and teaching grants from government and corporate sources rising to the rank of full professor in 2003. In 2007, Dr. Ilumoka received the Connecticut Women of Innovation Award for outstanding leadership & technology innovation. She was honored in 2008 by the Connecticut Women's Hall of Fame as "one of the best of A New Century of Women in Science'' for her leadership efforts to mentor young women and minorities in Connecticut. As one of the state's most distinguished engineers, she was inducted in May 2011 into the Connecticut Academy of Science and Engineering (CASE) the prestigious non-profit that provides science and technology advice to state government and the Connecticut General Assembly.

Understanding and modeling complex systems such as the US K-16 STEM education system requires bold interdisciplinary research. At NSF, within the Education and Human Resources directorate, Dr. Ilumoka leverages her expertise in complex systems research for effective and efficient management of undergraduate STEM education portfolio.

11th IEOM Global Engineering Education

Washington DC, September 27-29, 2018

DISTINGUISHED SPEAKERS

Thursday (September 27, 2018)

Session I: **Global Engineering Education**

2:30 – 4:00 pm (Thursday, September 27) - Room 1

Session Chair: Dr. Esther T. Ososanya, University of the District of Columbia

2:30 – 3:00 (Thursday)

Dr. Jacqueline Chestnut
Adjunct Professor
Industrial and Systems Engineering Department
College of Engineering
North Carolina A&T State University
1601 E. Market St
Greensboro, NC

Jacqueline Chestnut is an adjunct professor in the Industrial and Systems Engineering Department of North Carolina A&T State University, Greensboro, NC. She is also an Adjunct Instructor for the Master of Science in Industrial Engineering and Master of Engineering Management in the A. Leon Linton Department of Mechanical Engineering at the Lawrence Technological University, Michigan, USA. She earned Bachelor of Science and Master of Science in Industrial Engineering from North Carolina A&T State University, College of Engineering, Greensboro, North Carolina. Dr. Chestnut received a Ph.D. in Industrial Engineering from Mississippi State University in Starkville, Mississippi. She has published journal and conference papers. Dr. Chestnut has done research projects with General Motors, Jones International University and Lawrence Technological University. Her research interests include human error, simulation, online education, human factors and ergonomics. She is a member of CUR, ASQ and Sloan

3:00 – 3:30 (Thursday)

Dr. Bolanle Tolulope Abe
Senior Lecturer and Acting Academic Manager
Department of Electrical Engineering
Tshwane University of Technology
eMalahleni campus, South Africa

Active Learning in Engineering Education: Focus on TUT Perspective

Dr. Bolanle Tolulope Abe earned her Master degree in Communication Engineering from the Department of Electrical & Electronics Engineering, Federal University of Technology, Akure, Nigeria. She worked as a professional studio engineer at the Ondo-State Television Broadcasting Corporation, Nigeria before she moved into academics. Dr. Abe taught at the Department of Electrical & Electronics Engineering, Federal Polytechnic, Ado-Ekiti, Nigeria before she relocated to South Africa for further studies. She obtained Doctoral degree (PhD) in Electrical Engineering from the School of Electrical and Information Engineering, University of the Witwatersrand, Johannesburg, South Africa. Dr. Abe is a senior lecturer and the acting academic manager of the Department of Electrical Engineering, Tshwane University of Technology (TUT), eMalahleni campus, South Africa. She is a senate member of the University and also the Chairperson of the TUT Women in Engineering. Her passion is to motivate females in choosing engineering as a profession and to remain in the engineering profession. She is a member of many professional bodies among which are: the Institute of Electrical and Electronics Engineers (IEEE), South Africa Institute of Electrical Engineers (SAIEE), Engineering Council of South Africa (ECSA), Council for the Regulation of Engineering in Nigeria (COREN) and Industrial Engineering and Operations Management (IEOM). Her research interests are multi-disciplinary; these include the application of computational intelligence in remote sensing, Communication engineering, Electromagnetic Compatibility, corrosion and water resource management. She has track records in human capacity development by supervising and producing Masters and Doctoral students. She has published several papers in Journals, book chapters and has presented conference papers in many countries. She is an editor of the African Journal of Science, Technology, Innovation and Development, Neural Computing and Applications Journal and Egyptian Journal of Remote Sensing.

3:30 – 4:00 (Thursday)

Dr. Esther T. Ososanya
Professor and Chair
University of the District of Columbia
Department of Electrical and Computer Engineering
4200 Connecticut Avenue, NW
Washington DC

Dr. Esther T. Ososanya is a professor of Electrical and Computer Engineering at the University of the District of Columbia, and the current department chairperson. During her career, Dr. Ososanya has worked for private industry as a circuit development engineer and as a software engineer, in addition to her academic activities. She received

her education in the United Kingdom, where she achieved her Ph.D. in Electrical Engineering from the University of Bradford in 1985, and a Post Doctoral Research Fellow from the University of Birmingham, UK. She was a Visiting Professor at Michigan Technological University for five years, and an Associate professor at Tennessee Technological University for 7 years prior to arriving at the University of the District of Columbia in the Fall of 2001. Dr. Ososanya research interests include new applications for VLSI ASIC design, Microcomputer Architecture, Embedded Systems design, Nanotechnology, and Renewable Energy Systems. In recent years, she has worked with colleagues to apply these technologies to Biomass research, Solar Cells efficiency capture research, and Renewable Energy Curriculum developments.

Session II: **Global Engineering Education**

4:30 – 6:00 pm (Thursday, September 27) - Room

Session Chair: Professor Sarma Yadavalli, University of Pretoria, South Africa

4:30 – 5:00 (Thursday)

Professor Sarma Yadavalli
Head
Department of Industrial and Systems Engineering
University of Pretoria
Pretoria, South Africa

Sarma Yadavalli is presently working as Professor, and Head, Department of Industrial & Systems Engineering, University of Pretoria. His research areas of interest include, Applied stochastic modeling towards Reliability engineering, Queuing theory, Inventory management, Quality control and various estimation and optimization problems related to these areas. Sarma Yadavalli is NRF (National Research Foundation, South Africa) rated, and attracted several research projects. He was former President of OR Society of South Africa. More than 135 research papers have been published in various national and international journals to his credit.

5:00 – 5:30 (Thursday)

Prof. Dr. Md. Nurul Absar Chowdhury
Professor
Department of Mechanical and Chemical Engineering
Islamic University of Technology (IUT)
Organisation of Islamic Cooperation (OIC)
Board Bazar, Gazipur-1704
Bangladesh

5:30 – 6:00 (Thursday)

Amir Hessami
Civil and Architectural Engineering Department
Texas A&M University–Kingsville
Kingsville, TX 78363, USA

Amir Hessami is an assistant professor of construction management in the Department of Civil and Architectural Engineering at Texas A&M University–Kingsville (TAMUK). He holds a Ph.D. in Civil Engineering (Construction Management) from Texas A&M University, an M.Sc. in Civil Engineering (Hydraulic Structures) from Sharif University, and a B.Sc. in Civil Engineering from Ferdowsi University. His research is in the areas of infrastructure asset management, project management, and construction management, with a focus on decision-making under uncertainty, risk analysis, and life-cycle cost analysis. Dr. Hessami's background includes more than fifteen years of research, teaching, and practical experience in the planning, design, construction, and maintenance of infrastructure projects.

ID 157 Multi-criteria Decision-making in Situations with a Large Number of Alternatives

Amir Hessami, Civil and Architectural Engineering Department, Texas A&M University–Kingsville, Kingsville, TX 78363, USA
Joon-Yeoul Oh, Mechanical and Industrial Engineering Department, Texas A&M University–Kingsville, Kingsville, TX 78363, USA

Joon-Yeoul Oh
Mechanical and Industrial Engineering Department
Texas A&M University–Kingsville
Kingsville, TX 78363, USA

Joon-Yeoul Oh is an associate professor of Department of Mechanical and Industrial Engineering at Texas A&M University–Kingsville (TAMUK). He earned a Ph.D. and M.Sc. in Industrial Engineering from New Mexico State University and a B.Sc. in Industrial Engineering from Chong-Ju University. His work is in the area of operations research and engineering management, focusing on risk analysis, risk management and responses, project management, network optimization, wireless telecommunication network expansion and optimization, non-linear programming, heuristic algorithms, integer programming, linear programming, queueing theory, information systems engineering, and algorithm development. Dr. Oh has more than 15 years of teaching and research experiences at TAMUK and has published more than 50 journal and conference papers. His recent projects include emergency response-time optimization, improving garbage collection routing, and developing real-time aid for evacuation routing.

Friday (September 28, 2018)

Session III: **Global Engineering Education**

8:00 – 9:30 am (Friday) - Room 1
Session Chair: Dr. Rezg Nidhal, University of Lorraine, Metz, France

8:00 – 8:30 (Friday)

Anjum Ali, Ph.D.
Professor, Electrical Engineering Department
Editor-in-Chief, FAST-NU Research Journal
National University of Computer and Emerging Sciences
Lahore, Pakistan

Engineering Education in Pakistan: How it changed in the past forty years

Dr. Anjum Ali completed his Ph.D. degree in August 1988 from the University of Alabama, Huntsville, Alabama, U.S.A. He has been teaching Electrical and Computer Engineering subjects since March 1978. His first teaching appointment, as a lecturer of Electrical Engineering, was at the University of Engineering and Technology (UET), Lahore, Pakistan, after winning gold medals in each of the last three years of his undergraduate engineering education. His teaching experience includes twelve years at Mercer University, Macon, Georgia, USA, and about nine years at three different universities in Saudi Arabia. He has also worked, as an associate professor, at the Lahore University of Management Sciences (LUMS), Lahore, Pakistan, from 1996 to 1998. He served as the chairman of the Electronics Engineering and Instrumentation Department at the Hail Community College (now University of Hail), Hail, Saudi Arabia, from February 2000 to June 2002. During his stay there, he developed a four-year degree program in Electrical Engineering for the University of Hail. Dr. Anjum Ali moved to Pakistan in July 2002, and joined Al-Khawarizmi Institute of Computer Science (KICS) at the University of Engineering and Technology, Lahore, as a professor in December 2002. During his stay at KICS, he initiated many research and development projects and won research grants. He has been a professor of Electrical Engineering at the National University of Computer and Emerging Sciences, (FAST-NU), Lahore, since May 2005. Dr. Anjum Ali has taught many EE, CE and CS courses and supervised numerous graduate as well as undergraduate students during his 40 years of teaching career. He has over 30 conference and journal publications. He is also the founding editor of the FAST-NU Research Journal. His areas of current research interest include embedded control systems and computer architecture.

8:30 – 9:00 (Friday)

Dr. Rezg Nidhal
Professor of University
Director of LGIPM Laboratory (Laboratoire de Génie Industriel, de Production et de Maintenance)
Director of Training and Research Unit (MIM)
University of Lorraine
Metz, France

Nidhal Rezg is a Doctor of Industrial Automatic from the National Institute of Applied Sciences (INSA) in Lyon in 1996. Accreditation to supervise research at the University of Metz in 2003. he was Professor at the Faculty of Engineering of the University of Moncton, New Brunswick Canada from 1997 to 1999 and Associate professor at the University of Metz until 2004, and currently holds the position of Professor of University. He is director of LGIPM laboratory since October 2006 and scientific responsible of the INRIA CusTom team from 2007 to 2011. His research interests is the optimization of maintenance policies coupled to production, the optimal control SED. He is the author of sixty papers in international journals, directors of 12 theses and 4 Accreditation to supervise research. Keywords research are modeling, simulation and optimization of stochastic processes, reliability and maintenance and Petri nets.

9:00 – 9:30 (Friday)

Said Kafumbe and Zine-Eddine Abid
Electrical Engineering Technology
Higher Colleges of Technology
Abu Dhabi, UAE

Dr. Said Mutaka Mukasa KAFUMBE, Higher Colleges of Technology, Abu Dhabi, United Arab Emirates Said is an Assistant Professor in Electrical Engineering in the Department of Electrical Engineering at the Higher Colleges of Technology, Abu Dhabi with over 20 years of industrial and academic experience. His research interests lie in the fields of nanotechnology, autonomous systems development, micro-electromechanical systems (MEMS), and semiconductor technology integration, as well as the advancement of novel teaching and learning course curriculum development techniques.

ID 024 Engineering Course Curriculum Development with Application Specific Mathematics Course Content
Said Kafumbe and Zine-Eddine Abid, Electrical Engineering Technology, Higher Colleges of Technology, Abu Dhabi, UAE

Session IV: Global Engineering Education

11:30 am – 1:00 pm (Friday, September 28) - Room 1

Session Chair: Dr. Bachtiar H. Simamora, Bina Nusantara University, Jakarta, Indonesia

11:30 – 12:00 (Friday)

Dr. Adedeji Badiru
Dean
Graduate School of Engineering and Management
Air Force Institute of Technology
Wright-Patterson AFB, OH

An Integrative Systems Engineering Framework for Operational Excellence

Deji Badiru is the Dean and senior academic officer for the Graduate School of Engineering and Management at the Air Force Institute of Technology (AFIT). He is responsible for planning, directing, and controlling all operations related to granting doctoral and master's degrees, professional continuing cyber education, and research and development programs. In his post-high-school days, Deji worked as a graphic artist for children television programs, as a writer and columnist for community newspapers, and as an accounts clerk. These are practical skills that he frequently uses, even today, in his administrative and professional duties.

Deji Badiru was previously Professor and Head of Systems Engineering and Management at AFIT, Professor and Department Head of Industrial & Information Engineering at the University of Tennessee in Knoxville, and Professor of Industrial Engineering and Dean of University College at the University of Oklahoma, Norman. He is a registered professional engineer (PE), a certified Project Management Professional (PMP), a Fellow of the Institute of Industrial Engineers, and a Fellow of the Nigerian Academy of Engineering. He holds BS in Industrial Engineering, MS in Mathematics, and MS in Industrial Engineering from Tennessee Technological University, and Ph.D. in Industrial Engineering from the University of Central Florida. His areas of interest include mathematical modeling, systems efficiency analysis, and high-tech product development. He is the author of over 30 books, 35 book chapters, 75 technical journal articles, 115 conference proceedings and presentations. He also has published 30 magazine articles and 20 editorials and periodicals. He is a member of several professional associations and scholastic honor societies.

Deji Badiru has won several awards for his teaching, research, and professional accomplishments. He is the recipient of the 2009 Dayton Affiliate Society Council Award for Outstanding Scientists and Engineers in the Education category with a commendation from the 128th Senate of Ohio. He also won 2010 IIE Joint Publishers Book-of-the-Year Award from the Institute of Industrial Engineers. He also won 2010 ASEE John Imhoff Award for his global contributions to Industrial Engineering Education, the 2011 Federal Employee of the Year Award in the Managerial Category from the International Public Management Association, Wright Patterson Air Force Base, the 2012 Distinguished Engineering Alum Award from the University of Central Florida, and the 2012 Medallion Award from the Institute of Industrial Engineers for his global contributions in the advancement of the profession. In February 2013, he was selected as a finalist for the Jefferson Science Fellows (JSF) program by the US National Academy of Sciences and the US Department of State. Prof. Badiru was the leader of the AFIT team that won the 2013 Air Force Organizational Excellence Award for Air University C3 (Cost Conscious Culture). His most recent award is the 2015 National Public Service Award at the overall US Air Force level.

Deji Badiru has served as a consultant to several organizations around the world including Russia, Mexico, Taiwan, Nigeria, Ghana, and Canada. He has conducted customized training workshops for numerous organizations including Sony, AT&T, Seagate Technology, U.S. Air Force, Oklahoma Gas & Electric, Oklahoma Asphalt Pavement Association, Hitachi, Nigeria National Petroleum Corporation, and ExxonMobil. He holds a leadership certificate from the University Tennessee Leadership Institute. He has served as a Technical Project Reviewer, curriculum reviewer, and proposal reviewer for several organizations including The Third-World Network of Scientific Organizations, Italy, National Science Foundation, National Research Council, and the American Council on Education. He is on the editorial and review boards of several technical journals and book publishers. Deji has also served as an Industrial Development Consultant to the United Nations Development Program. He is also a program evaluator for ABET, the international engineering and technology accreditation body. In 2011, Prof. Badiru led a research team to develop analytical models for Systems Engineering Research Efficiency (SEER) for the Air Force acquisitions integration office at the Pentagon. He has led a multi-year composite manufacturing collaborative research between the Air Force Institute of Technology and Wyle Aerospace Group.

Deji Badiru has diverse areas of avocation. His professional accomplishments are coupled with his passion for writing about everyday events and interpersonal issues, especially those dealing with social responsibility. Outside of the academic realm, he writes motivational poems, editorials, and newspaper commentaries; as well as engaging in paintings and crafts. As a contribution to sparking the interest of kids in science and engineering, Deji runs the Physics of Soccer website (www.physicsofsoccer.com). He is the founder of the Association of Military Industrial Engineers

(AMIE). He also runs ABICS Publications, through which he publishes non-technical guide books for home, work, and leisure. A prolific researcher and author, Deji espouses the spirit of sharing knowledge freely and widely, which is the reason he offers self-published guide books to make his publications affordable and accessible to the general public.

Education

- PhD, Industrial Engineering, University of Central Florida
- MS, Mathematics, Tennessee Technological University
- BS, MS, Industrial Engineering, Tennessee Tech Univ

12:00 – 12:30 (Friday)

Prof. Clinton Aigbavboa, Ph.D.
Vice Dean: Postgraduate Studies, Research and Innovation
Head: Sustainable Human Settlement and Construction Research Centre
Faculty of Engineering and the Built Environment
University of Johannesburg, Johannesburg, RSA
Editor - Journal of Construction Project Management and Innovation (JCPMI)

Prof. Aigbavboa Clinton, PhD, is an Associate Professor at the University of Johannesburg, South Africa. His research interest are situated in the fields of sustainable human development, with the focus on: sustainable housing regeneration (urban renewal and informal housing), Life Cycle Assessment in the Construction Industry, remanufacturing, leadership in low-income housing, Biomimicry, post occupancy evaluation and green job creation.

12:30 – 1:00 (Friday)

Dr. Bachtiar H. Simamora
Associate Professor
Leader of Performance Excellence Research Group
Bina Nusantara University
Jakarta, Indonesia

Bachtiar H. Simamora is an Associate Professor, and Leader of Performance Excellence Research Group at Bina Nusantara University, Jakarta, Indonesia. He earned B.S. in Mathematics from North Sumatera University, Medan, Indonesia, Master's in General Operations Research from School of Engineering and Applied Science the George Washington University, Washington DC, USA and PhD in Industrial Engineering and Management from Oklahoma State University Stillwater Oklahoma, USA. He has published journal and conference papers. He has started new journal named International Journal of Organizational Business Excellence (IJOBEX) where he is the Editor-in-Chief. Dr Simamora has just completed research projects with Asian Productivity Organization (APO) about Public Sector Productivity. His research interests include Business Process Modelling and Mapping, Business Process Improvement, Organizational Performance Excellence, simulation, optimization, reliability, scheduling, and lean. He is member of ORSA and ICSB.

Session V: Global Engineering Education

2:30 – 4:00 pm (Friday, September 28) - Room 1
Session Chair: Dr. Pule Kholopane, University of Johannesburg, South Africa

2:30 – 3:00 (Friday)

Dr. Pule Kholopane
Associate Professor
Head of Department: Quality and Operations Management
Department of Quality and Operations Management
Faculty of Engineering and the Built Environment
University of Johannesburg
Johannesburg, South Africa

New strategies and approaches in operations management are needed in order to meet challenges that will be brought about by new technological development like industry 4.0 and internet of things (IOT) in both private and public institutions

Professor Pule Aaron Kholopane is currently a Head of Department in the Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg. He worked at Unilever first as an Operator and then a Plant Controller position within a manufacturing plant. He was then promoted to a Shift Manager position. He left Unilever in 2000 to take up a job at Picto Thobela Enterprise as a Technical Director. He left the company in 2003 to pursue his business interests. He established two companies called PULE AND MANAGEMENT CONSULTANTS (PUMAC) and SEBATI AND KHOLOPANE Construction. Both companies were involved in many private and Government projects.

Professor Kholopane did part time lecturing at Production Management Institute (PMI) and later joined Vaal University of Technology as a Senior Lecturer in Industrial Engineering and Operations Management department but later moved to the University of Johannesburg to take up a senior

post. He also acted as the Head of Department (HOD). A number of research papers have been published in various national and international journals to his credit.

3:00 – 3:30 (Friday)

Pradeep K. Behera, Ph.D., PE, D. WRE
Professor and Chair
Civil Engineering Department
School of Engineering and Applied Sciences
University of the District of Columbia
4200 Connecticut Avenue NW
Washington, DC 20008

Dr. Pradeep K. Behera, P.E., D.WRE, the recipient of The Dr. Marjorie Holloman Parker Distinguished Educator's Award, is Professor and Chair of Department of Civil Engineering at the University of the District of Columbia School of Engineering and Applied Science (SEAS). Dr. Pradeep Behera has been an engineering educator for last 25 years in three different countries. He received his bachelors and master's degrees from Sambalpur University, India and Ph.D. degree from the University of Toronto, Canada. Dr. Behera started his engineering faculty career at the National Institute of Technology, India in 1990. Since then he has been serving as an engineering educator in India, Canada and United States. He joined UDC as an Associate Professor of Civil Engineering Program in 2005. He has been serving as first Chair of the Department of Civil Engineering which was created in 2013. Prior to joining UDC he was working as Sr. Water Resources Engineer in Canada and USA. His research interests include urban stormwater management, water resources engineering, sustainable urban water systems climate change and coastal infrastructures. He has published a number of research papers in peer review journals, book chapters, and international and national conference proceedings. He is a Professional Engineer from the State of Maryland, District of Columbia and is a Diplomat from the American Academy of Water resources Engineers. He has more than 20 years of practical engineering experience in planning, design and analysis of water resources systems and has served as President of District of Columbia Society of Professional Engineers.

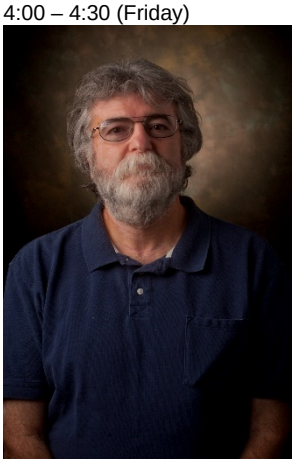
3:30 – 4:00 (Friday)

Dr. Lina Nataly Alvarado
Department of Industrial Engineering
Investigative group of Industrial and Environmental Processes (GIPIA)
University of Cundinamarca, Bogotá D.C - Soacha
Colombia

Lina Nataly Alvarado is an industrial designer with a Masters degree in industrial engineering from the National University of Colombia. She works within this university as well as in the Global Campaign, 100 million for a 100 million, led by the Foundation for a Better world. Her investigative projects can be classified in three lines of study within innovation: competence strategies, as she won the award for the undergraduate thesis for her development of new products and processes in small businesses; communication strategies for her work obtaining the Guiness World Record with the creation of a mobilization strategy that enforced public policy within the country and finally social innovation with the creation of an investigative group on this topic for her alma mater. She was an Incae Business School scholar and a trustee in the Social Entrepreneurial Summit hosted by the international nonprofit VIVA for her work in socially innovative projects.

ID 223 Design of an Architectural Traceability as an Observatory for Decision Making in Undergraduate Curriculums
Lina Nataly Alvarado Riaño and Jefferson Aldamer Rubiano Forero, Department of Industrial Engineering, Investigative group of Industrial and Environmental Processes (GIPIA), University of Cundinamarca, Bogotá D.C - Soacha, Diagonal 9 No. 595, Colombia.

4:00 – 4:30 (Friday)



Gürsel A. Süer
Professor of ISE Department
Ohio University
Athens, OH, USA

Gürsel A. Süer is a professor in the ISE Department at Ohio University. He has obtained his BSIE and MSIE degrees from Middle East Technical University, Ankara, Turkey and PhD in IE from Wichita State University. He is on the editorial board of various journals. He has co-chaired two Computers and Industrial Engineering Conferences (1997-Puerto Rico, 2005-Istanbul), ANNIE Conference in 2009. He also initiated Group Technology/Cellular Manufacturing Conferences which were held in 2000-Puerto Rico, 2003-Ohio, 2006-Netherlands, 2009-Japan. He is also organized a workshop on CM/SERU in 2016 Ohio. He was the program chair for FAIM 2018 Conference held in USA and program co-chair for ICPR to be held in Chicago in 2019.

He has consulted various companies such as AVON, HP, General Dynamics, Ocular Science, Lifescan, Circo Caribe, Allergan America, Excel, Vornado, and carried out several funded projects sponsored by MVESC, TS Trim, Ohio University, NSF, AVON, Checkpoint, and Timberland. Most of his research has been motivated by his experiences and observations in industrial settings. His main interests are applied scheduling, manufacturing system design, supply chain, vehicle routing, logistics, applied optimization, decision making, genetic algorithms and hybrid systems, intelligent systems with human component, modeling competitive business strategies. He has offered workshops in Intelligent Manufacturing and Logistics and Cellular Manufacturing in various International Conferences and gave key note speeches. He has edited seven Conference Proceedings and four special issues with different journals. He has published over 60 journal papers, published 20 chapters in edited books, about 80 refereed conference papers, about 40 conference papers, and made 50 presentations. He also edited a book on cellular manufacturing in 2017.

Session VI: **Global Engineering Education**

4:30 – 6:00 pm (Friday, September 28) - Room 1

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

4:30 pm – 5:00 **pm (**Friday**)**

Dr. Rumi Tobita
Associate Professor
Department of Innovative Engineering
Ashikaga University
Ashikaga, Tochigi, Japan

Rumi Tobita is a professor of department of Engineering, Ashikaga University in Japan. Prof. 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 Educational Technology 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 WorldCALL 2008 and FLEAT VII.

ID 248 Integrating Analysis with NIRS and Active-Learning strategies for Developing an Effective ESP Course Design
Rumi Tobita, Department of Innovative Engineering, Ashikaga University, Ashikaga, Tochigi, Japan

5:00 pm – 5:30 pm **(**Friday**)**

Dr. Tonya Smith-Jackson
Professor
Department of Industrial and Systems Engineering
North Carolina Agricultural and Technical State University
Greensboro, NC, USA
Program Director (rotator) at the National Science Foundation (NSF/CISE Directorate/IIS Division)

Tonya Smith-Jackson, PhD, CPE is a Program Director (rotator) at the National Science Foundation (NSF/CISE Directorate/IIS Division). The presentation topic is based on some of her work associated with the Center for the Advancement of STEM Leadership (CASL), which is funded by the National Science Foundation. Before her temporary leave, she served as Professor and Chair of the Department of Industrial and Systems Engineering at NC A&T State University. She is a CASL Leadership Fellow, Higher Education Resources Services (HERS) Fellow, and an NC A&T State University Executive Leadership and Professional Development participant. She earned her BS degree in psychology (University of North Carolina-Chapel Hill) and holds an interdisciplinary Master of Science degree from NC State University in Industrial Engineering and Psychology; her doctoral degree is in Psychology/Ergonomics. She is a Certified Professional Ergonomist, and a Fellow of the Human Factors and Ergonomics Society. Research areas include usability engineering, cognitive ergonomics, and sociotechnical systems applied to cyber-human systems, systems safety, learning systems, and training systems design. Research sponsors include NSF, National Institutes of Health, Department of Defense, and private industry (UPS, Toshiba). She has worked in industry and the federal government in the USA and abroad.

Dr. G. Don Taylor
Vice Provost for Learning Systems Innovation and Effectiveness
Charles O. Gordon Professor
Virginia Tech
Blacksburg, VA, USA

G. Don Taylor, PhD, PE is the Vice Provost for Learning Systems Innovation & Effectiveness and the Charles O. Gordon Professor at Virginia Tech. Prior to this position, he served as Interim Dean of the College of Engineering and as the Head of the Grado Department of Industrial Engineering at Virginia Tech. He has also held the Mary Lee and George F. Duthie Chair in Engineering Logistics at the University of Louisville and was the Director of The Logistics Institute at the University of Arkansas. He is a Fellow and Past-President of the Institute of Industrial and Systems Engineers (IISE), and is a Fellow and member of the Board of the World Academy of Productivity Science. He is a registered Professional Engineer.

ID 286 Empowering Undergraduate Student Researchers through Inclusive Research Learning Systems
Tonya Smith-Jackson, Dept. of Industrial and Systems Engineering, North Carolina Agricultural & Technical State University, Greensboro, NC, USA
G. Don Taylor, Learning Systems Innovation and Effectiveness, Virginia Tech, Blacksburg, VA, USA

5:30 pm – 6:00 pm **(**Friday**)**

Michael S. Mkwanazi
Research Associate
Faculty of Engineering and the Built Environment
University of Johannesburg
South Africa

Michael S. Mkwanazi is a Research Associate in the Faculty of Engineering and the Built Environment at the University of Johannesburg in South Africa. Mr. Mkwanazi holds a National Diploma in Entrepreneurship, Bachelor of Technology Degree in Operations Management, and Master of Technology Degree in Operations Management (Cum Laude) from the University of Johannesburg and a Postgraduate Diploma from North West University. In 2017 he was awarded the prestigious Rhodes scholarship to pursue an MSc Degree in Business Management – Entrepreneurship at Oxford Brookes University. He is also admitted to the University of Oxford to read for a DPhil. Education degree programme from October 2018 focusing on Entrepreneurship Education Ecosystems. In 2016 he was recognized as a runner up for the Queens Young Leaders Initiative which is managed by the Cambridge University Institute for Continuing Education. He has published some conference papers in the field of co-operatives and on system reliability under IEEM.

Professor Charles Mbohwa
Acting Executive Dean
Faculty of Engineering and the Built Environment (FEBE)
University of Johannesburg
South Africa

Charles Mbohwa Professor Charles Mbohwa is the Acting Executive Dean 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.

ID 135 Education Programmes for Manufacturing Cooperatives: United Kingdom and South Africa Study
Sizwe Mkwanazi and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

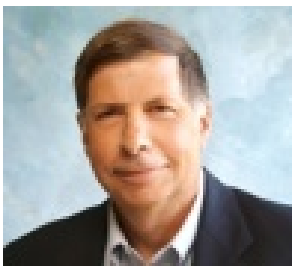
Saturday (September 29, 2018)

Session VII: **Curriculum Development for Business Analytics**

8:00 – 9:30 am (Saturday) - Room 1
Session Chair: Professor Lillian Kamal, University of Hartford, CT, USA

Challenges and opportunities in curriculum development for Business Analytics

The focus of this session is mainly on practical aspects of course development, instruction, appropriate software in the context of growing data. In addition, student preparedness, ability to succeed through the learning process and serve the future needs of the business community will be addressed.



Professor James Peta Jr
Visiting Professor of Economics
Department of Economics, Finance and Insurance
Barney School of Business
University of Hartford

Presentation title: Delivery of Quant and Business Statistics courses to the Business students and developing MS in Business Analytics to meet the demands of the businesses

Jim Peta is a faculty member in the Department of Economics, Barney School of Business, University of Hartford, specializing in quantitative methods. He received his Bachelor of Chemical Engineering from Rensselaer Polytechnic Institute and his MBA from the University of Hartford in 1969. He has taught as an adjunct at the University of Hartford since 1973 before becoming a regular faculty member in 2008. Mr. Peta served as Director of the Accelerated MBA program from 2010 to 2012 and as Director of the MBA program from 2012 to2015. In 2018 he became Director of the new MS in Business Analytics which will be launched in spring 2019.
During his tenure, Mr. Peta developed and implemented the Business Analytics minor for the undergraduate business program. He also developed and implemented a Business Analytics Concentration for the MBA program. As an active member of the Barney School of Business faculty, he has

taught both graduate and undergraduate courses. These include Quantitative Methods for Business Decisions, Managerial Statistics, and Business Forecasting.

Mr. Peta has received numerous commendations for his excellence in teaching at Barney School of Business, University of Hartford.

- 2017 High Impact Faculty
- 2016 Gordon Clark Ramsey Award for Creative Excellence in teaching, University of Hartford
- 2015 Professor Of The Year, Barney Leadership Council
- 2014 High Impact Faculty
- 2013 Professor Of The Year, Barney Leadership Council

Mr. Peta has over 40 years as a business manager in the industrial sector of business. He has held positions as Vice President of Production for Pioneer Steel Ball, Manager of Manufacturing Operations for Thomson Precision Ball and most recently as a Senior Product Manager and Site Manager for Danaher.

ID 510 Delivery of Quant and Business Statistics courses to the Business students and developing MS in Business Analytics to meet the demands of the businesses

James Peta Jr, Department of Economics, Finance and Insurance, Barney School of Business, University of Hartford, CT, USA

Professor Lillian Kamal
Associate Professor of Economics
Department of Economics, Finance and Insurance
Barney School of Business
University of Hartford

Presentation title: Issues in creating data analytics courses

Abstract: Data analytics is still a relatively new area of study. As such, courses in data analytics are as yet being fined tuned. This discussion focuses on issues that have arisen in the development and teaching of courses in data analytics at both the undergraduate and graduate levels. These issues include the lack of case studies; lack of appropriate and adequate textbooks; and the lack of applications in different business fields. In particular, a marked gap exists in terms of long term case studies on the impact of data analytics on firm measures such as customer retention, sales, profitability, etc., and an adequate array of textbooks ranging from an introductory level to a more advanced level of business analytics. In addition, given diverse student backgrounds, it becomes necessary to create overview courses that present the application of data analytics and data visualization in different business areas. The difficulty in creating such a course which provides an overview of major business areas and applications to business analytics will therefore be discussed at length.

ID 511 Issues in creating data analytics courses

Lillian Kamal, Department of Economics, Finance and Insurance, Barney School of Business, University of Hartford, CT, USA

Professor Bharat Kolluri
Professor of Economics
Department of Economics, Finance and Insurance
Barney School of Business
University of Hartford

Presentation title: What does an Introductory Course look like in Business Analytics?

Bharat Kolluri is Professor of Economics at the Barney School of Business, University of Hartford, West Hartford, Connecticut, USA. He earned BA (Honours) in Mathematics and MS in Statistics from Andhra University, India, Masters and Ph.D.in Economics from State University of New York at Buffalo. His articles have appeared in journals such as The Review of Economics and Statistics, Applied Economics and Review of Quantitative Finance and Accounting. He has recently published a text book with two of his colleagues, Introduction to Quantitative Methods in Business: Using Microsoft Office Excel, 1st edition by John Wiley & Sons, 2017. Based on the recommendation of the Faculty Committee, the University bestowed the prestigious Bent Award for Scholarship/Creativity to Dr. Kolluri at Commencement on May 16, 2004.

Dr. Kolluri has presented papers in many professional organizations including American Economic Association, Econometric Society Meetings and others. He was invited to deliver an address during the Inaugural session of the 2nd International Conference on India 2020, Vision for the Financial Sector, Delhi, March 10-11, 2014. The address is on the topic, “The Anatomy of the 2007-09 U.S. Great Recession, Policy Responses, and the impact on Emerging Markets”, jointly written with Prof. Kamal. His current research activity deals with Interest Elasticity of Savings among US households, Stock Returns and Expected Inflation during the recent period of disinflation 2009-2017, across major global stock markets. At present, he is expanding his areas of teaching interests to Business Analytics.

ID 509 What does an Introductory Course look like in Business Analytics?

Bharat Kolluri, Department of Economics, Finance and Insurance, Barney School of Business, University of Hartford

Session VIII: Global Engineering Education

11:30 am – 1:00 pm (Saturday, September 29) - Room 1

Session Chair: Tonya Smith-Jackson, North Carolina Agricultural and Technical State University, Greensboro, NC 27411, USA

11:30 am – 12:00 pm (Saturday)

Inclusive Research Advancement: Why Collaboration with HBCUs Matters

Tonya Smith-Jackson
Department of Industrial and Systems Engineering
North Carolina Agricultural and Technical State University
Greensboro, NC 27411, USA
Current Position: Program Director, Cyber-Human Systems Division,
Cultivating Cultures of Ethics in STEM
Broadening Participation in Computing Work Group
National Science Foundation, Alexandria, VA 22314

Tonya Smith-Jackson is currently serving in a rotational position at the National Science Foundation (NSF/CISE Directorate/IIS Division). The presentation topic is based on some of her work associated with the Center for the Advancement of STEM Leadership, which is funded by the National Science Foundation. Before coming to NSF, she served as Professor and Chair of the Department of Industrial and Systems Engineering at NC A&T State University. She is also director of the Human Factors Analytics Lab and co-director of the Cyber-Human Analytics Research for the Internet of Things (CHARIoT) lab. She earned her BS degree in psychology from the University of North Carolina at Chapel Hill and holds an interdisciplinary Master of Science degree from NC State University in Industrial Engineering and Psychology; her doctoral degree is in Psychology/Ergonomics. She is Certified Professional Ergonomist. She has conducted research in usability engineering, cognitive ergonomics, and sociotechnical systems applied to cyber-human systems, systems safety, and training systems design. Research sponsors include NSF, National Institutes of Health, Department of Defense, and private industry (UPS, Toshiba). Prior to academia, she worked in industry and for the federal government in the USA and abroad. She is a member of IISE, HFES, ASEE, and INCOSE.

Fay Cobb Payton
Information Systems/Technology
North Carolina State University
Raleigh, NC 27695, USA
Current Position: Program Director, Computer & Network Systems Division,
Excellence in Research
INCLUDES Implementation Team
Broadening Participation in Computing Work Group
National Science Foundation, Alexandria, VA 22314

Fay Cobb Payton is currently serving in a rotational position at the National Science Foundation (CISE Directorate/CNS Division). She is also a Full Professor (with Tenure) of Information Technology/Systems at North Carolina State University and is named a University Faculty Scholar for her leadership in turning research into solutions to society's most pressing issues. She directs funded research efforts associated with myHealthImpactNetwork and ChangeComputerScience. She conducts research in healthcare IT/informatics and disparities; data management/science, social media use, STEAM + Arts, online communities; broadening participation in IT/computing and STEM education and workforce participation. Research sponsors include NSF, National Institutes of Health, Kenan Institute, NC State Foundation and private industry (KPMG, AT&T, and others). She earned a Ph.D. in Information & Decision Systems from Case Western Reserve University. She holds a MBA from Clark Atlanta University in Decision Sciences. She completed the Atlanta University Center Dual Degree Engineering Program with a BS in Industrial and Systems Engineering from Georgia Institute of Technology and a BA in Accounting (with a minor in Mathematics) from Clark Atlanta University. Prior to joining academe, she worked in corporate IT, engineering and consulting at several US organizations. She is a member of ACM and IEEE.

ID 287 Inclusive Research Advancement: Why Collaboration with HBCUs Matters

Tonya Smith-Jackson, Dept. of Industrial and Systems Engineering, North Carolina Agricultural and Technical State University, Greensboro, NC, USA
Fay Cobb Payton, Information Systems/Technology, North Carolina State University, Raleigh, NC, USA

12:00 pm – 12:30 pm (Saturday)

Scott McCurdy
Cochranton Junior-Senior High School
Cochranton, PA 16314

Scott McCurdy is in his 12th year in public education. He earned undergraduate degree and teaching certifications from Grove City College and has worked with students at all levels in the subjects of Physics, Mathematics, and General Sciences. His teaching background includes 11 years in classroom where he worked extensively on STEMrelated initiatives. He connected local employers with his classroom curriculum and helped facilitate STEM professional development across the state of Maryland. He has also coached JV and Varsity sports during his career. Along the way, he earned his M.Ed. in School Administration from Liberty University and is currently the Assistant Principal and Athletic Director at Cochranton Jr/Sr High School in Pennsylvania. His most recent STEM-related ambitions focus on piloting school's first group of students to work through a newly created STEM Academy.

John Namey
Jefferson Area Junior-Senior High School
Jefferson, OH 44047, USA

John Namey has been a Math teacher and and sports coach at Jefferson High School for 4 years. He obtained his BS in Mathematics from The Ohio State University. By obtaining a Resident Educator License through ODE, he has taken the mathematical theory he learned from OSU back to his hometown of Jefferson to try and get students interested in STEM. He has worked on computer programming throughout college and into his professional career.

Faisal Aqlan
Industrial Engineering Department
Penn State Behrend
Erie, PA 16563, US

Faisal Aqlan is currently an assistant professor of Industrial Engineering and Master of Manufacturing Management (MMM) at Penn State Behrend. He earned his Ph.D. in Industrial and Systems Engineering from the State University of New York at Binghamton in 2013. Aqlan has worked on industry projects with Innovation Associates Company and IBM Corporation. His work has resulted in both business value and intellectual property. He is a certified Lean Silver and Six Sigma Black Belt. He is a senior member of the Institute of Industrial and Systems Engineers (IISE) and currently serves as the president of IISE Logistics and Supply Chain Division, director of Young Professionals Group, and founding director of Modeling and Simulation Division. Aqlan is also a member of American Society for Quality (ASQ), Society of Manufacturing Engineers (SME), and Industrial Engineering and Operations Management (IEOM) Society. He has received numerous awards including the IBM Vice President award for innovation excellence, Penn State Behrend's School of Engineering Distinguished Award for Excellence in Research, and the Penn State Behrend's Council of Fellows Faculty Research Award. Aqlan is the Principal Investigator and Director of the NSF RET Site in Manufacturing Simulation and Automation at Penn State Behrend.

ID 398 A Framework for Teaching Manufacturing Paradigms Using Simulation
Scott McCurdym, Cochranton Junior-Senior High School, Cochranton, PA 16314
John Namey, Jefferson Area Junior-Senior High School, Jefferson, OH 44047, USA
Faisal Aqlan, Industrial Engineering Department, Penn State Behrend, Erie, PA 16563, US

12:30 pm – 1:00 pm (Saturday)

Hemendra Nath Roy
Supply Chain Superintendent, Manufacturing and Apparel Sourcing
Gildan
Dhaka, Bangladesh

Engg. Hemendra Nath Roy has completed his Bachelor of Industrial and Production Engineering (IPE) from Khulna University of Engineering and Technology (KUET), a reputed public university in Bangladesh in the year of 2012. He has been engaging himself with diversified application based research and publication along with a dynamic professional career development at Gildan Bangladesh, a Canadian Apparel Manufacturing company. Around six research works have been published in different renowned journals and International conferences where the major research area were Implementation of different industrial Engineering tools and concept like Six Sigma, Multi-criteria base decision analysis, Data Analytics, Reverse logistic, Green Supply Chain to enhance the productivity and Supply Chain performance. Also he has been facilitating a good number of Technical sessions on key area of Industrial and System engineering in different university in Bangladesh. In the last 6 years of professional experience he has been proving himself as a diversified experienced person in Manufacturing & Supply chain dynamics, Operations Management, Project management, Sourcing, Procurement, service process improvement, Product development and commercial management. In addition, two successful Raw-material cost reduction projects, Establishment and implementation of Vendor Selection, Monitoring and Evaluation Process, Vendor managed JIT inventory controlling system are being accomplished/developed in his recent responsibilities as a Superintendent of Supply Chain Department.

Session IX: Global Engineering Education

2:30 – 4:00 pm (Saturday, September 29) - Room 1
Session Chair: Dr. Shahram Taj, Florida Polytechnic University, Lakeland, FL, USA

2:30 pm – 3:00 pm (Saturday)

Dr. Mustafa Ilhan Akbas
Department of Computer Science
Florida Polytechnic University, Lakeland, FL 33805, USA

Mustafa Ilhan Akbas is an Assistant Professor at the Computer Science (CS) Department of Florida Polytechnic University. His research interests include Ad Hoc and Vehicular Networks, verification of Autonomous Vehicles, Internet of Things, Simulation and Modeling. Dr. Akbas has been teaching at every level of CS department and serving as the Academic Coordinator for the department. Prior to joining Florida Poly, Dr. Akbas was a research scholar at the University of Central Florida (UCF), where he participated in projects on simulation and modeling of cyber-physical systems and innovation networks. Dr. Akbas received his Ph.D. degree in Computer Engineering, UCF. His BS and MS degrees are from the Department of Electrical and Electronics Engineering, Middle East Technical University. Dr. Akbas has industry experience in various international projects on communication networks. He serves as a member of the editorial board and of the technical program committee of IEEE journals and conferences. He is a member of IEEE, ACM, IEEE Communications Society, IEEE Internet of Things and Complex Systems Society.

Dr. Shahram Taj
Department of Data Science and Business Analytics
Florida Polytechnic University
Lakeland, FL 33805, USA

Shahram Taj is a Professor and the Chair of the Department of Data Science and Business Analytics at Florida Polytechnic University. Prior to joining Florida Poly, he was Professor and Chair of the Department of Management and Marketing at Lawrence Technological University in Michigan from 2013 to 2016. He is an accomplished academician, 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 has conducted over 100 projects at Ford, Visteon, New Venture Gear, GM-Holden, and Baker Hughes. The projects have covered productivity improvements, implementing lean manufacturing, and optimizing process design.

ID 314 Intelligent Mobility Concentration for Undergraduate Students in Data Science and Business Analytics
Mustafa Ilhan Akbas, Department of Computer Science, Florida Polytechnic University, Lakeland, FL 33805, USA
Shahram Taj, Department of Data Science and Business Analytics, Florida Polytechnic University, Lakeland, FL 33805, USA

3:00 pm – 3:30 pm (Saturday)

Mr. Abdul Mannan
Software Engineer at Social Security Administration
Adjunct Professor, Department of Computer Science and Information Technology (CSIT)
The University of the District of Columbia
Washington, DC, USA

Progress and Obstacles in Software Development Process

Professor Abdul Mannan is an Adjunct Professor at Department of Computer Science and Information Technology (CSIT), The University of the District of Columbia, Washington, DC, USA. He is a Software Engineer at Social Security Administration. Mr. Mannan was a Software Developer at EDS, an HP Company for more than five years. He was a Software Engineer at CompSci Resources for three years. Mr. Mannan has earned Master of Science (MS) in Computer Science from New York Institute of Technology, USA and Bachelor of Science in Civil Engineering from Khulna Univ. of Engineering and Technology, Bangladesh.

3:30 – 4:00 (Saturday)

Mohammad A Rahman, Ph.D.
Manufacturing and Construction Management
Central Connecticut State University
New Britain, CT, USA

Dr. Mohammad Anwar Rahman is a faculty at the Central Connecticut State University in Manufacturing and Construction Management. He has published papers in referred journals and presented results in conferences. His research focuses on logistics, supply chain management, stochastic process and designing quality procedure. Dr. Rahman conducted several research projects with Mississippi Dept. of Education (MDE) and US Dept. of Transportation (USDOT). He has various certifications including Lean Six Sigma Green Belt (Purdue University), Lean Principles (Purdue University), Demonstrated Master Logistician (The International Society of Logistics), Malcolm Baldrige Quality Award Examiner (Louisiana Quality Foundation), and Certified Transportation & Logistics (American Society of Transport & Logistics). Dr. Rahman is affiliated with ISERC, DSI, AST&L and IEOM.

Session X: **Global Engineering Education**

4:30 – 6:00 pm (Saturday, September 29) - Room 1

Session Chair: Dr. Oscar A. Vasquez-Bernal, Universidad Nacional Abierta y a Distancia, Bogotá Colombia

4:30 – 5:00 (Saturday)

Dr. Oscar A. Vasquez-Bernal
Associate Professor, School of Basic Sciences, Technology and Engineering
Universidad Nacional Abierta y a Distancia
Bogotá Colombia

Oscar A. Vasquez-Bernal is an Associate Professor in the School of Basic Sciences, Technology and Engineering at Universidad Nacional Abierta y a Distancia, Bogotá Colombia. He earned his BS in industrial engineering from Universidad Antonio Nariño, Colombia, and his Master's in business administration from UNAD Florida USA. He is presently a PhD candidate in engineering at Universidad Nacional de Colombia. He has published several journal articles and conference papers. Professor Vasquez-Bernal has been involved in projects with manufacturing and engineering companies. He is a management consultant in quality assurance, project management and safety management. He has taught courses in entrepreneurship, strategy and corporate logistics and innovation for engineers; his research interests include certification, accreditation, multi-criteria decision analysis and optimisation. He is a member of NFPA, LACCEI and IEEE.

ID 212 Professional Certification Engineering: A Goal-Based and Multi-Criteria Decision Analysis Approach
Oscar Alejandro Vásquez-Bernal, School of Basic Sci., Tech. and Eng., Univ. Nacional Abierta y a Distancia UNAD, Bogotá D.C., Colombia
Félix Antonio Cortés-Aldana, Faculty of Engineering, Universidad Nacional de Colombia, Bogotá D.C., Colombia

5:00 – 5:30 (Saturday)

Dr. Faisal Aqlan
Assistant Professor of Industrial Engineering
Master of Manufacturing Management (MMM)
Penn State Behrend, Erie, Pennsylvania, USA

Faisal Aqlan is currently an assistant professor of Industrial Engineering and Master of Manufacturing Management (MMM) at Penn State Behrend. He earned his Ph.D. in Industrial and Systems Engineering from the State University of New York at Binghamton in 2013. Aqlan has worked on industry projects with Innovation Associates Company and IBM Corporation. His work has resulted in both business value and intellectual property. He is a certified Lean Silver and Six Sigma Black Belt. He is a senior member of the Institute of Industrial and Systems Engineers (IISE) and currently serves as the president of IISE Logistics and Supply Chain Division, director of Young Professionals Group, and founding director of Modeling and Simulation Division. Aqlan is also a member of American Society for Quality (ASQ), Society of Manufacturing Engineers (SME), and Industrial Engineering and Operations Management (IEOM) Society. He has received numerous awards including the IBM Vice President award for innovation excellence, Penn State Behrend's School of Engineering Distinguished Award for Excellence in Research, and the Penn State Behrend's Council of Fellows Faculty Research Award. Aqlan is the Principal Investigator and Director of the NSF RET Site in Manufacturing Simulation and Automation at Penn State Behrend.

5:30 – 6:00 (Saturday)

Jefia Abigail Oghenevwegba
Department of Electrical and Information Engineering
Covenant University
Ogun State, Nigeria

Achieving Quality Engineering Education in Nigeria

Abigail Jefia is presently a senior at Covenant University where she majors in Information & Communication Engineering from the department of Electrical & Information Engineering with a concentration in Networking. In 2015, she worked as an IT Support intern at the Covenant University Network Office Centre where she developed her interest for networking. Afterwards, she interned with Telnet Nigeria Limited as a Network Analyst/Engineer in 2018, where she honed her network management skills and gained deeper insights into the various advancements towards networking. In 2018, Abigail obtained a Cisco Certified Network Associate Routing and Switching (CCNA Routing and Switching) Certificate from the experience garnered from her internships. Her current research interests include Software-defined Networking and Cyber security.

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Engineering Technology Department
Old Dominion University
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Dr. Luis Rocha-Lona
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University of Minnesota Crookston

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Ghorbanmohammad Komaki
Case Western Reserve University
Cleveland, Ohio

Cellular Manufacturing

Dr. Gursel Suer
Industrial and Systems Engineering
Ohio University
Athens, Ohio

CAD Applications and Computing

Dr. Rushan Ziatdinov
Department of Industrial Engineering
Keimyung University
Daegu, South Korea

Construction Management

Dr. Rakesh Ramnath
The University of the West Indies
St Augustine Campus, West Indies

Cyber Security

Dr. Gahangir Hossain
Texas A&M University-Kingsville

Data Analytics / Business Analytics

Bharat Kolluri
Barney School of Business
University of Hartford, West Hartford, Connecticut

Mehdi Davoodi
Rutgers University, The State University of New Jersey, New Brunswick, NJ

Decision Sciences

Ing. Johanna Trujillo Díaz, M.Sc.
Programa Ingeniería Industrial
Escuela Colombiana de Ingeniería Julio Garavito
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ITAM
Mexico City, Mexico

Dr. Luz María Valdez de la Rosa
Engineering Management Program
Division of Engineering and Technology
Universidad de Monterrey
Monterrey, Mexico

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Daniel J. Epstein Department of Industrial & Systems Engineering
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Emerald Global Consulting, Southfield, Michigan

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University of Salerno, Italy

Lean

Dr. Faranak Fathi Aghdam
Fiat Chrysler Automobiles (FCA)
Auburn Hills, Michigan

Logistics
Shahram Taj, Ph.D.
Logistics & Supply Chain Management
Florida Polytechnic University
Lakeland, Florida

Manufacturing

Dr. Ramy Harik
McNAIR Center for Aerospace Innovation and Research
University of South Carolina
Columbia, South Carolina

Modeling and Simulation

Dr. Mohammad Dehghani
Northeastern University
Boston, Massachusetts

Dr. Ali ElKamel
University of Waterloo
Canada

Operations Management

Hans-Jürgen Sebastian
Institut für Wirtschaftswissenschaften
RWTH Aachen
Aachen, Germany

Dr. Amr Elbadan
University of Business and Technology
Jeddah, Saudi Arabia

Operations Research

Dr. Azadeh Maroufmashat
University of Waterloo
Canada

Optimization

Dr. Mahdi Fathi
University of Florida
Gainesville, Florida

Product Lifecycle Management (PLM)

Dr. Bill Edwards, PhD, PE, PMP
Industrial, Systems, & Engineering Management
Pawley Lean Coordinator
Oakland University
Rochester, Michigan

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AGCO Corporation
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Production Planning and Management

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Evergreen Packaging
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Project Management

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California State University
Fresno, California

Afshan Roshani
Permasteelisa North America
Windsor, Connecticut

Quality

Dr. Andy Pandian
Saginaw Valley State University (SVSU)
Saginaw Valley, Michigan

Reliability

Dr. Seyed A. Niknam
Western New England University
Springfield, Massachusetts

Sensors and Sensing

Dr. Mukti Rana
Delaware State University, Dover, Delaware

Six Sigma

Saso Krstovski
Ford Motor Company
Sterling Heights, Michigan

Supply Chain

Dr. Faisal Aqlan
Penn State Behrend
Erie, Pennsylvania

Sustainability

Dr. Amarjit Singh
University of Hawaii at Manoa
Honolulu, Hawaii

Sustainable Manufacturing

Dr. Omar Ashour
Penn State Behrend
Erie, Pennsylvania

Statistics

Dr. Arjun K. Gupta
Bowling Green State University
Bowling Green, Ohio

Systems Dynamics

Dr. Mahdi Bastan
Department of Industrial Engineering
University of Eyvanekey, Semnan, Iran

Systems Engineering

Dr. Wilkistar Otieno
Industrial and Manufacturing Engineering
University of Wisconsin – Milwaukee

Technology Management

Dr. Masoud Rahiminezhad Galankashi
University of Technology, Malaysia

Transportation and Traffic

Dr. Abbas Mahmoudabadi
Mehrastan University
Gilan, Iran

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Lean Manufacturing Coach /Six Sigma Master Black Belt
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Ford Motor Company
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Dr. Gopalan Srinivasan, University of New Brunswick, Canada
Dr. Zuraidah Sulaiman, Universiti Teknologi Malaysia
Dr. Balan Sundarakani, University of Wollongong in Dubai, UAE
Laurent Tchommo, Lecturer of Operations Management, Department of CIS & BSAN, College of Business, James Madison University, VA, USA
Dr. Murat Caner Testik, Hacettepe University, Ankara, Turkey
Dr. Theodore B. Trafalis, University of Oklahoma, USA
Dr. Vladimir I. Tsurkov, Russian Academy of Sciences, Moscow, Russia
Dr. Hui-Ming Wee, Chung Yuan Christian University, Taiwan
Dr. Yong Yin, Yamagata University, Japan
Dr. Norzaidahwati Zaidin, Universiti Teknologi Malaysia, Johor, Malaysia
Dr. Suhaiza Hanim Zailani,University Malaya, Malaysia
Dr. Linda L. Zhang, IESEG School of Management, Lille-Paris, France

Submissions Received from Countries and Territories

Algeria
Australia
Bangladesh
Botswana
Brazil
Canada
Colombia
Cuba
Ecuador
Egypt
Ethiopia
Finland
France
Germany
Ghana
Hungary
India
Indonesia
Iran
Iraq
Ireland
Israel
Italy
Japan
Jordan
Kuwait
Malaysia
Mauritius
Mexico
Morocco
Nigeria
Oman
Pakistan
Papua New Guinea
Portugal
Qatar
Russia
Saudi Arabia
Singapore
Slovakia
South Africa
South Korea
Spain
Sri Lanka
Taiwan
Thailand
Turkey
United Arab Emirates
United Kingdom
United States
Uzbekistan
Zimbabwe

UNIVERSITY OF THE DISTRICT OF COLUMBIA
1851

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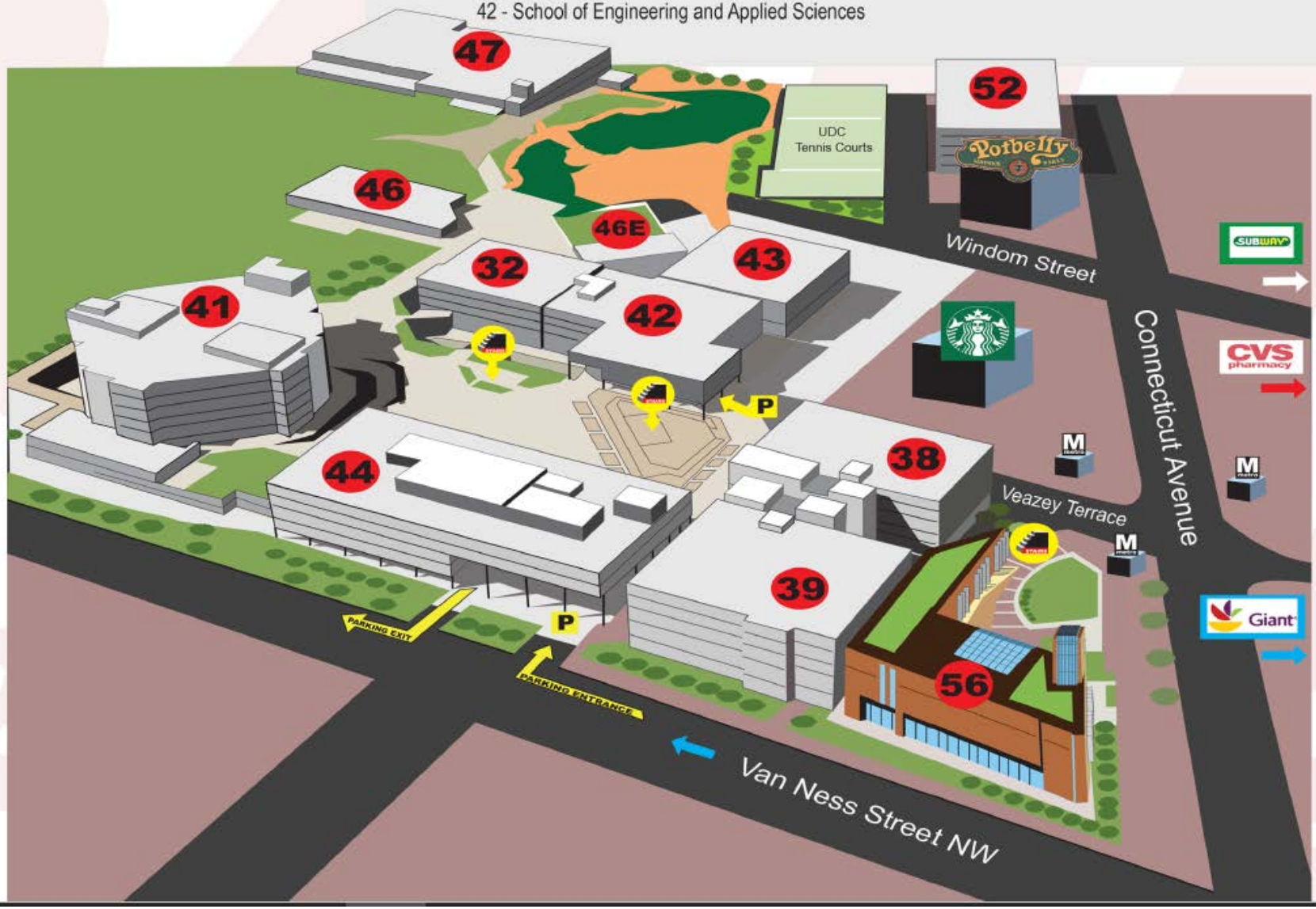
44 -Causes / Life Sciences/Health Services
46 E - Theatre of the Arts
46 W - Performing Arts
47 - Sports Complex
52 - David A. Clarke School of Law
56 - Student Center



Parallel Sessions

Thursday, September 27, 2018

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
9:30	***Welcome Address:*** **Ronald Mason, Jr., J.D.,** President of The University of the District of Columbia, Washington D.C.						
10:00	***Opening Keynote:*** **Dr. Bruce Kramer**, Senior Advisor, National Science Foundation - Student Center Ballroom						
11:00	Networking Break - Student Center Ballroom Lobby						
11:30	***Keynote:*** **Dr. Pamela McCauley**, Program Director – Innovation Corps- National Innovation Network Sites Program (I-Corps Sites), National Science Foundation and Professor and Director of the Ergonomics Laboratory, Department of Industrial Engineering and Management Systems, University of Central Florida - Student Center Ballroom						
12:15	***Keynote:*** **Dr. Russell R. Barton**, Distinguished Professor of Supply Chain and Information Systems, Smeal College of Business, Pennsylvania State University, University Park, PA, USA and Vice President, INFORMS Sections and Societies						
1:00	Networking Buffet Lunch – Student Center Ballroom						
1:40	***Lunch Keynote:*** **Dr. Jack L. Price,** Director of Research, Naval Surface Warfare Center, USA						
2:00	Networking Break - Student Center Ballroom Lobby						
2:30	**Global Engineering Education I**	**Industry Solutions I**	**Undergraduate Student Paper Competition**	**Graduate Student Paper Competition**	**Supply Chain Management**	**Quality**	**Operations Management**
4:00	Networking Break - Student Center Ballroom Lobby						
4:30	**Global Engineering Education II**	**Industry Solutions II**	**Undergraduate Research Competition**	**Graduate Student Paper Competition**	**Supply Chain Management**	**Business Management**	**Operations Management**
6:00 – 8:00: Poster Session, Senior design poster competition and Student Chapter Activity Presentation – Student Center Ballroom							

Friday, September 28, 2018

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
8:00	**Global Engineering Education III**	**Lean Six Sigma Workshop**	**Logistics and Systems Dynamics**	**Competitions**	**Supply Chain Management**	**Engineering Management**	**Operations Management**
9:40	***Keynote:*** **Dr. Jose Luis Guerrero-Cusumano**, Associate Professor of Operations and Information Management, McDonough School of Business, Georgetown University, Washington D.C., USA - Student Center Ballroom						
10:20	***Keynote:*** **John H. James, Jr.,** Executive Director, Missile Defense Agency - Student Center Ballroom						
11:00	Networking Break - Student Center Ballroom Lobby						
11:30	**Global Engineering Education IV**	**Lean Six Sigma Workshop**	**Maintenance Services**	**Artificial Intelligence**	**Logistics**	**Information Systems and Management**	**Operations Research**
1:00	Networking Buffet Lunch – Student Center Ballroom						
1:40	***Lunch Keynote:*** **Professor Cecilia Nembou,** President and Vice-Chancellor, Divine Word University, Papua New Guinea						
2:30	**Global Engineering Education V**	**Lean Six Sigma Workshop**	**E-Business and Cybersecurity**	**Systems Engineering**	**Supply Chain and Sustainability**	**Healthcare Systems**	**Business Management**
4:00	Networking Break - Student Center Ballroom Lobby						
4:30	**Global Engineering Education VI**	**Lean Six Sigma Workshop**	**Lean Six Sigma**	**Data Analytics**	**Design and Analysis**	**Operations Excellence**	**Operations Research and Sustainability**
6:30 – 9:30 pm: **Conference Awards and Recognition Dinner** – Student Center Ballroom ***Awards Keynote:*** **Dr. Claudia Rankins**, Program Officer, Directorate for Education and Human Resources, NSF							

Saturday, September 29, 2018

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7
8:00	**Global Engineering Education VII**	**Lean**	**Engineering Education**	**Transportation and Traffic**	**Manufacturing**	**Modeling and Simulation**	**Optimization**
8:00 – 9:30 and 11:30 – 1:00 - **High School and Middle School STEM Posters Competition** – Student Center Ballroom							
9:40	***Keynote:*** **Veronica L. Nelson**, Executive Director, Advancing Minorities' Interest in Engineering (AMIE), Washington D.C.						
10:20	***Keynote:*** **Dr. Rupy Sawhney,** Professor and Heath Fellow in Business & Engineering, Department of Industrial and Systems Engineering and Executive Director of CASRE (Center for Advanced System, Research and Education), University of Knoxville, Knoxville, Tennessee, USA - Student Center Ballroom						
11:00	Networking Break - Student Center Ballroom Lobby						
11:30	**Global Engineering Education VIII**	**Inventory Management**	**Energy**	**Innovation and Industry Practices**	**Environmental Engineering**	**Modeling and Simulation**	**Project Management**
1:00	Networking Buffet Lunch – Student Center Ballroom						
1:40	***Lunch Keynote:*** Dr. Abby Ilumoka Nwabizour, Program Director, Engineering Education, NSF - Student Center Ballroom						
2:30	**Global Engineering Education IX**	**Energy**	**Human Factors and Ergonomics**	**Construction Management**	**Sustainability and Green Systems**	**Case Studies**	**Project Management**
4:00	Networking Break - Student Center Ballroom Lobby						
4:30	**Global Engineering Education X**	**Energy**	**Case Studies**	**Construction Management**	**Systems Dynamics**	**Financial Engineering**	**Design and Analysis**

September 27, 2018 (Thursday)

9:30 am – 10:00 am, Thursday
WELCOME ADDRESS
Ronald Mason, Jr., J.D.
President
The University of the District of Columbia
Washington D.C.
Student Center Ballroom

10:00 am – 11:00 am, Thursday
OPENING KEYNOTE
Dr. Bruce Kramer
Senior Advisor
National Science Foundation
Student Center Ballroom

11:00 am 11:30 am, Thursday
Networking Break

11:30 am – 12:15 pm, Thursday
KEYNOTE
Dr. Pamela McCauley
Program Director – Innovation Corps- National Innovation Network Sites Program (I-Corps Sites)
National Science Foundation
and
Professor and Director of the Ergonomics Laboratory
Department of Industrial Engineering and Management Systems
University of Central Florida
Student Center Ballroom

12:15 pm – 1:00 pm, Thursday
KEYNOTE
Dr. Russell R. Barton
Distinguished Professor of Supply Chain and Information Systems
Smeal College of Business
Pennsylvania State University
University Park, PA, USA
and
Vice President, INFORMS Sections and Societies
Student Center Ballroom

1:00 – 2:30 pm **– Buffet Lunch Provided** - Student Center Ballroom

1:40 – 2:00 pm – Thursday Lunch Keynote

Dr. Jack L. Price
Director of Research
Naval Surface Warfare Center, USA

Session – Thursday (September 27): 2:30 – 4:00 pm

2:30 – 4:00, THURSDAY Global Engineering Education I Room 1

Session Chair: Dr. Esther T. Ososanya, University of the District of Columbia

2:30 – 3:00 (Thursday)

Dr. Jacqueline Chestnut
Adjunct Professor
Industrial and Systems Engineering Department
College of Engineering
North Carolina A&T State University
Greensboro, NC

3:00 – 3:30 (Thursday)

Dr. Bolanle Tolulope Abe
Senior Lecturer and Acting Academic Manager
Department of Electrical Engineering
Tshwane University of Technology
eMalahleni campus, South Africa

Active Learning in Engineering Education: Focus on TUT Perspective

3:30 – 4:00 (Thursday)

Dr. Esther T. Ososanya
Professor and Chair
University of the District of Columbia
Department of Electrical and Computer Engineering
4200 Connecticut Avenue, NW
Washington DC 20008

2:30 – 4:00, THURSDAY Industry Solutions I Room 2

Session Chair: Dr. Sergey Ivanov, University of the District of Columbia, Washington DC, USA

2:30 – 3:00 (Thursday)

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

Application of Hoshin Kanri, Long Term Planning and Strategic Deployment

3:00 – 3:30 (Thursday)

Bob Mathur
Sr. Project Manager
Phillips 66 Refinery (Exxon)
Linden, NJ 07036, USA

Latest Tools for Project Engineering & Management in Construction Industry including, Refinery, Pharmaceutical and IT

3:30 – 4:00 (Thursday)

Dr. Sergey Ivanov
Professor
Department of Management
School of Business and Public Administration
University of the District of Columbia
Washington DC, USA

ID 516 Organizational Systems and Unicorns: What Systems?
Sergey Ivanov, Department of Management, School of Business & Public Administration, University of the District of Columbia, Washington DC, USA

2:30 – 4:00, THURSDAY Undergraduate Student Paper Competition Room 3

Session Chair: Dr. Mohammad A Rahman, Central Connecticut State University, New Britain, CT, USA

ID 040 Reduce Fast Food Shrinkage due to Distribution: A Case Study
Paola B. Lomas, Alejandra Ahumada, Lucia Flores & Bernardo Villarreal, Department of Industrial Engineering, Universidad de Monterrey, San Pedro Garza Garcia, N.L., Mexico

ID 089 Radio Frequency Identification based Communication of Smart Grid with Advance Metering Infrastructure Survey
Muhammad Nauman Sheikh, Department of Electrical Engineering, University College of Engineering and Technology (UCET), The Islamia University of Bahawalpur, Pakistan

ID 272 Evaporative Cooling Tower with Nylon Net as Filling Material
Anuj S. Sawarkar, Jatin J. Chafale, Prashik R. Durge and Sagar S. Gulsundare, College of Engineering, Pune, India
Mohan P. Khond Guide, Mechanical Engineering Department, College of Engineering, Pune, India

ID 363 Reduction of Patient Prolong Length of Stay in the ED using Lean Six Sigma
Dalal Al-Munayes, Fatima Al-Mahdi, Sarah Bahman, Sara Sadeq, Shahad Bojbara and Lawrence Al-Fandi, Industrial Engineering Department, American University of the Middle East, Kuwait

2:30 – 4:00, THURSDAY Graduate Student Paper Competition Room 4

Session Chair: Dr. Ahm Shamsuzzoha, University of Vaasa, Finland

ID 026 Redesign of the Monthly Report of Key Performance Indicators of a Mexican Brewery Plant
Priscila Ocañas and Rafael Cruz, Engineering Department, Universidad de Monterrey, San Pedro Garza Garcia, NL 66238, Mexico

ID 096 Project Management versus Operations Management: A Comparative Study
Ahmed Osman and Nasr Al Hinai, Mechanical and Industrial Engineering Department, Sultan Qaboos University, Muscat, Oman

ID 108 Changeover Optimization on Cupcake Production Line at Gandour Factory
Abeer Gholam, Majedh Alzahrani, and Batool Bajkhaif, Faculty of Engineering, Industrial Engineering Department, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia

ID 459 Towards a Smart Warehouse Management System
Walaa Hamdy, Noha Mostafa, and Hesham Elawady, Industrial Engineering Department, Zagazig University, Zagazig, Sharkia, Egypt

ID 267 A Novel Integrated AHP-TOPSIS Model to Deal with Big Data in Group Decision Making
Seyedmohammad Salehi, Computer and Information Sciences, University of Delaware, Newark, DE, USA
Maghsoud Amiri, Department of Industrial Management, Allameh Tabataba'i University, Tehran, Iran
Pezhman Ghahramani, Department of Industrial & Mechanical Engineering, Islamic Azad University, Qazvin Branch, Qazvin, Iran.
Mohammadali Abedini, Australian Maritime College, University of Tasmania, Launceston, Tasmania, Australia

ID 504 The Effect of Ceiling Height on the Performance of Air-Distribution Systems Based on thermal Comfort and it's Environmental Effects
Meshal AlOtaibi, Architectural Engineer, and PhD candidate, University of Kansas, Lawrence, KS, USA

2:30 – 4:00, THURSDAY Supply Chain Management Room 5

Session Chair: Amit Arora, University of the District of Columbia, USA

ID 059 Understanding Fix-Cost Allocation and its Effect on Supply Chain Performance
Mozart B. C. Menezes, Kedge Business School, Bordeaux, 33000, France
Diego Ruiz-Hernández, Colegio Universitário de Estudios Financieros, Madrid, Spain

ID 149 Big Data Analytics in Supply Chain: A Literature Review
Mohamed Awwad, Pranav Kulkarni, Rachit Bapna and Aniket Marathe, Industrial and Systems Engineering Department, University at Buffalo, The State University of New York, Buffalo, NY 14260, USA

ID 151 Blockchain Technology for Efficient Management of Supply Chain
Mohamed Awwad, Sohit Reddy Kalluru, Varun Kazhana Airpulli, Madhubala Santosh Zambre, Aniket Marathe and Prasham Jain, Industrial and Systems Engineering Department, University at Buffalo, The State University of New York, Buffalo, NY, USA

ID 154 Online Monitoring of On-Self Availability
Nermine Harraz, Production Engineering Department, Industrial Engineering Division, Alexandria University, Alexandria, EGYPT

ID 164 Additive Manufacturing – A Future Revolution in Supply Chain Sustainability and Disaster Management
Krishnamoorthi Muthukumarasamy, Pratheep Balasubramanian, Aniket Marathe and Mohamed Awwad, Industrial and Systems Engineering Department, University at Buffalo, The State University of New York, Buffalo, NY, USA

ID 520 Exploring Global Value Chains' Disaggregation through Market Turbulence, Supply Chain Collaboration and Performance Outcomes
Amit Arora and Anshu Arora, University of the District of Columbia, USA
John R McIntyre, Georgia Institute of Technology, USA

2:30 – 4:00, THURSDAY Quality Room 6

Session Chair: Akintunde Samson Alayande, University of Johannesburg, South Africa

ID 199 Implementation of Statistical Process Control Techniques to Reduce the Defective Ratio: A Case Study
Abdel-Rahman S. Shehata, M. Heshmat, Mahmoud A. El-Sharief, and Mohamed. G. El-Sebaie, Mechanical Engineering Department, Assiut University, Egypt

ID 232 Findings from the first Global Assessment on the Current State of Organizational Excellence
Dawn Ringrose, Organizational Excellence Specialists, Courtenay, Canada
André Mendes de Carvalho, Ph.D. Candidate, MIT Portugal Program – EDAM, Centro ALGORITMI, Dep. of Production and Systems Engineering, School of Engineering, University of Minho, Guimarães, Portugal and Visiting Student Researcher, Sociotechnical Systems Research Center, Massachusetts Institute of Technology, Cambridge, MA, United States
Paulo Sampaio, Centro ALGORITMI, Department of Production and Systems Engineering, School of Engineering, University of Minho, Guimarães, Portugal

ID 403 Analyzing the Causes of Poor Quality in the Construction Sector: A Critical Review
Dorcas Niati, Ndala Yves Mulongo and Clinton Aigbavboa, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX 524, Auckland Park, 2006, South Africa

ID 413 The Performance Assessment for the dMEWMA in Capturing Changes in Simple Linear Profiles
Galal M. Abdella, Department of Mechanical and Industrial Engineering, Qatar University, 2713, Al Hala Street, Doha, Qatar
Khalifa N. Al-Khalifa, Department of Mechanical and Industrial Engineering, Qatar Transportation and Traffic Safety Center (QTTSC), Qatar University, 2713, Al Hala Street, Doha, Qatar
Abdel Magid S. Hamouda, Department of Mechanical and Industrial Engineering, Qatar University, Al Hala Street, Doha, Qatar

ID 269 Inventory Management with Reliability Engineering Approach
Hari Agung Yuniarto, Industrial Engineering, Department of Mechanical and Industrial Engineering, Faculty of Engineering, Universitas Gadjah Mada, Yogyakarta, Indonesia
Jansen Dapit Sipayung, PT. Bank Mandiri (Persero) Tbk, Jakarta, Indonesia

2:30 – 4:00, THURSDAY Operations Management Room 7

Session Chair: Hwi-Chie Ho, Industrial Engineering Department, Bina Nusantara University, Jakarta, Indonesia

ID 105 An Avanced Ad Hoc Forecasting Technique For Banking Sector Of Bangladesh
Mohammad Babul Hasan and Md. Rajib Sheakh, Department of Mathematics, University of Dhaka, Dhaka-1000, Bangladesh

ID 165 Optimum Inventory Policy at Pt. Senahoy Optika Pratama in Indonesia
Bachtiar H. Simamora, Leader of Performance Excellence Research Group, Management Department, BINUS Business School, Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia

ID 228 Batch Sizing in Sustainable Production Systems with Imperfect Quality
Farnaz Ghazi Nezami, Department of Industrial and Manufacturing Engineering, Kettering University, Flint, MI 48504, USA
Mojtaba Heydar, School of Electrical Engineering and Computing, University of Newcastle, Callaghan, NSW 2308, Australia

ID 253 The Nexus Between Human Capital Development And Economic Growth In Nigeria
Oluwafemi Jesusetemi Funmi, Postgraduate School of Operations Management, University of Johannesburg, Auckland Park, South Africa
E.T. Akinlabi, Department of Mechanical Engineering Science, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 266 Reliability Assessment of Bufferless Production System: A Boolean Algebra and K-Map Approach
Firas Sallumi and Walid Abdul-Kader, Industrial and Manufacturing Systems Engineering, University of Windsor, Windsor (ON) Canada

ID 347 Intertwining Trilogy Premises of Hope, Social Support and Trust Relieving Work Stress Influencing to Well-being
Hwi-Chie Ho, Industrial Engineering Department, Bina Nusantara University, Jakarta, Indonesia

4:00 – 4:30 pm : Networking Break - Student Center Ballroom Lobby

Session – Thursday (September 27): 4:30 – 6:00 pm

4:30 – 6:00, THURSDAY Global Engineering Education II Room 1

Session Chair: Prof. Dr. Md. Nurul Absar Chowdhury, Islamic University of Technology (IUT), Board Bazar, Gazipur, Bangladesh

4:30 – 5:00 (Thursday)

Professor Sarma Yadavalli
Head
Department of Industrial and Systems Engineering
University of Pretoria
Pretoria, South Africa

5:00 – 5:30 (Thursday)

Prof. Dr. Md. Nurul Absar Chowdhury
Professor
Department of Mechanical and Chemical Engineering
Islamic University of Technology (IUT)
Organisation of Islamic Cooperation (OIC)
Board Bazar, Gazipur, Bangladesh

5:30 – 6:00 (Thursday)

Amir Hessami
Civil and Architectural Engineering Department
Texas A&M University–Kingsville
Kingsville, TX 78363, USA

Joon-Yeoul Oh
Mechanical and Industrial Engineering Department
Texas A&M University–Kingsville
Kingsville, TX 78363, USA

ID 157 Multi-criteria Decision-making in Situations with a Large Number of Alternatives
Amir Hessami, Civil and Architectural Engineering Department, Texas A&M University–Kingsville, Kingsville, TX 78363, USA
Joon-Yeoul Oh, Mechanical and Industrial Engineering Department, Texas A&M University–Kingsville, Kingsville, TX 78363, USA

4:30 – 6:00, THURSDAY Industry Solutions II Room 2

Professor Donald M. Reimer

President, The Small Business Strategy Group
Detroit, Michigan, USA
Adjunct Faculty – A. Leon Linton Department of Mechanical Engineering
Lawrence Technological University
Southfield, Michigan, USA

Innovation, Entrepreneurship and Corporate Intrapreneurship

4:30 – 6:00, THURSDAY Undergraduate Research Competition Room 3

Session Chair: Daniela Garza Gutiérrez, Engineering Management Academic Program, Universidad de Monterrey, Nuevo León, México

ID 190 Hand Gesture Control Robot
Shakir AlGhamdi, Ronilo Santos, Rayan Meteb Nuwayfe AlHarbi and Ahmed Mohammed Salman Albalawi, Department of Electrical and Electronics Engineering Technology, Yanbu Industrial College, Yanbu Al-Sinaiyah, KSA

ID 204 Improvement of Material Supply System through Kitting Concept and IT Solutions
Paola Puentes Vera and Astrid Gándara Martínez, Industrial and Systems Engineering, Universidad de Monterrey, Monterrey, Nuevo Leon, Mexico
Jenny Díaz Ramírez, Engineering Department, Universidad de Monterrey, Monterrey, Nuevo Leon, Mexico

ID 349 A Two Stage Risk Assessment and Hazard Prevention Approach: A Case Study for Noise Hazard in Oil Industry
Anwar Ebrahim, Fatemah AbdulRahman, Fatemah Mohammad, Hala Alhouti, Hessah Alrabiah, and Rifat Ozdemir, Industrial Engineering Department, American University of the Middle East (AUM), Eqaila, Kuwait

ID 457 Evaluating the sustainability of Rea Vaya System through measuring the service quality
Omphemetse Lengana, Phindile Mabaso, Bhenkumuzi Mavuso and Sebonkile Thaba, Department of Transport and Supply Chain Management, University of Johannesburg, Auckland Park, Johannesburg, South Africa

ID 365 Implementation of Applicable Models of Customer Analytics for a Retail Company in Mexico
Daniela Garza Gutiérrez, Engineering Management Academic Program, Universidad de Monterrey, Nuevo León, México
Juan Ignacio González Espinosa, Engineering Department, Universidad de Monterrey, Nuevo León, México

4:30 – 6:00, THURSDAY Graduate Student Paper Competition Room 4

Session Chair: Dr. Ahm Shamsuzzoha, University of Vaasa, Finland

ID 268 An Enhanced VIKOR MCDM Model to Solve Complex and Multi-Objective Optimization Problems
Seyedmohammad Salehi, Computer and Information Sciences, University of Delaware, Newark, DE 19716, USA
Maghsoud Amiri, Department of Industrial Management, Allameh Tabataba'i University, Tehran, Iran
Saeed Ramezanzadeh, Department of Basic Sciences, Faculty of logistics, Amin Olum-e-entezami University, Tehran, Iran
Mohammadali Abedini, Australian Maritime College, University of Tasmania, Launceston, Tasmania 7250, Australia

ID 333 Optimal Wireless Access Points Placement in a Manufacturing Facility using Genetic Algorithm
Tarek Ibrahim, Hala A. Farouk and Ahmed F. Abdel Moneim, Industrial and Management Engineering Department, Arab Academy for Science and Technology, Egypt

ID 351 Development of Automated Schedule Generator for Nurses in Emergency Department
Ahmed Osman, Nasr Al Hinai and Sujan Piya, Mechanical and Industrial Engineering Department, Sultan Qaboos University, Muscat, Oman

ID 146 Mapping of PSS Research: A Bibliometric Analysis
Muztoba Ahmad Khan and Thorsten Wuest, Department of Industrial and Management Systems Engineering, West Virginia University, Morgantown, WV, USA

ID 231 Business Excellence Models: Supporting the Cultural Perspective to Operationalize Excellence Sustainability in Manufacturing Organizations
André Mendes de Carvalho, MIT Portugal Program – EDAM, ALGORITMI Research Centre, Dep. of Production and Systems Engineering, School of Engineering, University of Minho, Guimarães, Portugal and Sociotechnical Systems Research Center, Massachusetts Institute of Technology, Cambridge, MA, United States
Paulo Sampaio, ALGORITMI Research Centre, Department of Production and Systems Engineering, School of Engineering, University of Minho Guimarães, Portugal
Eric Rebentisch, Sociotechnical Systems Research Center, Massachusetts Institute of Technology, Cambridge, MA, United States

ID 261 Model to Define the Optimal Production Program in a Food Processor SME Optimizing Human and Economic Resources
César Alanís Díaz, Edgar Marco Aurelio Granda Gutiérrez and Mtro. Refugio Chávez Hernández, Master in Engineering Administration, Universidad de Monterrey, Mexico

4:30 – 6:00, THURSDAY Supply Chain Management Room 5

Session Chair: Ferdous Sarwar, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh

ID 177 Evaluation of Effectiveness of Lean, Agile and Leagile Techniques in Supply Chain
Shreyas Ramesh, Gautham Sekar and Mohamed Awwad, Industrial and Systems Engineering Department, University at Buffalo, The State University of New York, Buffalo, NY 14260, USA

ID 179 Sustainable Last-Mile Logistics Operation in the Era of E-Commerce
Mohamed Awwad, Abhijeet Shekhar and Abhishek Sundaranarayanan Iyer, Industrial and Systems Engineering Department, University at Buffalo, The State University of New York, Buffalo, NY 14260, USA

ID 195 Towards a Sustainable Management of End-of-Life Vehicles in Qatar: A Closed-Loop Circular Economy Model
Shimaa Al-Quradaghi, Mechanical and Industrial Engineering Department, Qatar University, Doha, Qatar
Murat Kucukvar, Mechanical and Industrial Engineering Department, Qatar University, Doha, Qatar
Nuri Onat, Qatar Transportation and Traffic Safety Center, Qatar University, Doha, Qatar

ID 197 Partner Selection for Multiechelon Defective Supply Chain Network using Particle Swarm Optimization
Ferdous Sarwar and Saiara Samira, Department of Industrial & Production Engineering, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh

ID 234 Supply Chain the T-Shirt with Circular Economy Approach: Case Study in Ecuador
Erik Orozco Crespo, Career Industrial Engineering, Universidad Técnica del Norte, Ibarra, Ecuador
Neyfe Sablón Cossío, Career Industrial Engineering, Universidad Técnica de Manabí, Portoviejo, Ecuador
Daniel Bolaños Bolaños, Career Industrial Engineering, Universidad Técnica del Norte, Ibarra, Ecuador
Carlos A. Machado Orges, Career Industrial Engineering, Universidad Técnica del Norte, Ibarra, Ecuador
Edwing Ortega Montenegro, Career Industrial Engineering, Universidad Técnica del Norte, Ibarra, Ecuador

4:30 – 6:00, THURSDAY Business Management Room 6

Session Chair: Oscar A. Vásquez-Bernal, Universidad Nacional Abierta y a Distancia UNAD, Bogotá D.C., Colombia

ID 129 Moderating Role of Customer Satisfaction on the Relationship between Service Quality, Locational Convenience, Interpersonal Relationship and Customer Loyalty: Evidence from Banking Sector of Pakistan
Sehrish Mariyam, CASE, Pakistan

ID 140 The Relationship between Metacognition, Over-confidence, and Firms' International Performance
Hiroto Soga, Department of Economics, Kushiro Public University of Economics, Kushiro, Hokkaido, Japan

ID 213 Assessing Organizations Against Excellence Models: Will Subject Matter Experts Add Value to the Assessment Outcomes? An Exploratory Study
Ola Khalid AlZawati, Oussama Yousef Hammad and Imad Alsyouf, Department of Industrial Engineering and Engineering Management, University of Sharjah, Sharjah, United Arab Emirates

ID 138 Impact of Number Portability on Revenue of Mobile Operators in Nigeria; Comparing Churning Rate in MTN, Glo, Etisalat and Airtel
Nsikan Nkordeh[1], Uzairue Stanley[2], Victor Matthews Olu[3], Segun Popoola[4], Ibinabo Bob-Manuel[5], Atayero Aderemi[6]
[1,2,3,4,6] Department of Electrical and Information Engineering, Covenant University, Nigeria
[5] IT Consultant, Nigeria

ID 215 Exploratory Review of The State of the Art on the Impact of Implementation in SMEs: Case study in the environmental management system
Oscar A. Vásquez-Bernal and María P. Castillo-Castellanos, School of Basic Sciences, Technology and Engineering, Universidad Nacional Abierta y a Distancia UNAD, Bogotá D.C., Colombia
William E. Mosquera-Laverde, Faculty of Management, Economics and Accountancy, Universidad Cooperativa de Colombia, Bogotá D.C., Colombia

ID 250 Design of Production Planning and Control System for a Manufacturing Plant: Case Study
Ignatio Madanhire, Kumbi Mugwindiri and Nyasha Mushonga, University of Zimbabwe, Department of Mechanical Engineering, P.O Box MP167, Mt Pleasant, Harare, Zimbabwe
Charles Mbohwa, Department of Quality Management and Operations Management, University of Johannesburg, Auckland Park 2006, South Africa

ID 426 Investigating the Relationship between Lean Six Sigma and Innovation
Mohamed Alblooshi[a] and Mohammad Shamsuzzaman[ab]
[b] Sustainable Engineering Asset Management (SEAM) Research Group
[a] Department of Industrial Engineering and Engineering Management
University of Sharjah, Sharjah 27272, United Arab Emirates

4:30 – 6:00, THURSDAY Operations Management Room 7

Session Chair: Chi-Bin Cheng, Department of Information Management, Tamkang University, New Taipei City, Taiwan

ID 284 Process Improvement and Layout Optimization in a Forging Company
Andrea Bogert, William Edwards, Farzad Jalali and Faisal Aqlan, Master of Manufacturing Management (MMM) Program, Penn State Erie, The Behrend College, Erie, PA 16509, USA

ID 335 Warehouse Storage Assignment by Genetic Algorithm with Multi-objectives
Chi-Bin Cheng and Yu-Chi Weng, Department of Information Management, Tamkang University, New Taipei City, Taiwan

ID 345 Taguchi Based Design of Experiments for Optimization of Closed Loop Production Systems
Abdul Salam Khan, Industrial Engineering, LCFC, Arts et Metiers, ENSAM, ParisTech, 57078, France

ID 350 Application of Markov Model and Artificial Neural Network in Crude Oil Price Forecasting for PETRONAS Malaysia
Abdul Talib Bon and Nuhu Isah, Faculty of Technology Management, Business and Entrepreneurship University Tun Hussein Onn Malaysia, Parit Raja, Batu Pahat 86400, Johor, Malaysia

ID 405 A Theoretical Assessment of Warehouse Performance in Manufacturing Industries
Tshepo Phuti Mabotja, Ndala Yves Mulongo and Pule Aaron Kholopane, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006, South Africa

6:00 – 7:30 pm (Thursday) - Poster Session - Student Center Ballroom

6:00 – 7:30 pm (Thursday) POSTERS Student Center Ballroom

Chair: Dr. Ahm Shamsuzzoha, University of Vaasa, Finland

ID 006 Rheological Properties of NBR/CR blends as a Function of SiO2 Grain Size Gradation
Mohammed H. Al-Maamori, College of Engineering Materials, University of Babylon, Babylon, Hilla, Iraq
Ali I. Al-Mosawi and Kálmán Marossy, Faculty of Materials Science and Engineering, University of Miskolc, 3515 Miskolc-Egyetemváros, Hungary

ID 009 Projector Nonlinear Gamma Compensation by Response Surface Methodology

Javier Cruz-Salgado and Noé Alcalá Ochoa, Centro de Investigaciones en Óptica, AC, Guanajuato, México

ID 025 The Effects of Technology Growth and Information Assurance for Individuals with Autism and the Healthcare System
Tasfia Bari, Department of Information Assurance, College of Technology, Eastern Michigan University, Ypsilanti, MI, USA

ID 069 Enhance VSM Tool via Integrating AHP and ARIMA in Scheduling Problem
Ahmed M. Abed, Assist. Professor in Industrial Engineering Dept., Zagazig University, Egypt

ID 084 The Case for Unified Query Language
Charles Mutigwe and Myra Zhinin, Western New England University, Springfield, Massachusetts, USA

ID 088 Design and Development of Alternate Sources of Energy Using Wind Turbulence Created by Moving Vehicles on Highway by Using VAWT'S
Pranav Sarda, Rahul Sahu and Mohit Verma, Rashtrasant Tukdoji Maharaj Nagpur University, Nagpur, Maharashtra, India

ID 106 Lean Six Sigma, Crises Management and Innovation: A Theoretical Frame work
Adel A. Alharthi, Advanced Manufacturing and Enterprise Engineering, Brunel University, Uxbridge, Middlesex UB8 3PH, UK
Tariq Aziz, Department of Industrial Engineering, King Saud University, Riyadh, 11421, KSA

ID 111 A Design Procedure to Demonstrate Environmental and Economic Benefits of Energy Efficient Buildings
Muhammad Ali Shakir, Department of Mechanical Engineering, University College of Engineering and Technology, University of Sargodha
M. Mujahid Rafique, Department of Mechanical Engineering, King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia
Q. Ali, Department of Mechanical Engineering, University College of Engineering and Technology, University of Sargodha

ID 124 Structural and Ion Beam Analysis of Reactive Magnetron Sputtered Titanium Oxynitride Thin Films
Emmanuel Ajenifuja[1, 2, 3], Abimbola P. I. Popoola[1], Olawale Popoola[2]
[1]Department of Chemical, Metallurgical and Materials Engineering, Tshwane University of Technology, Pretoria, South Africa
[2]Centre for Energy and Electric Power, Tshwane University of Technology, Pretoria, South Africa
[3]Center for Energy Research and Development, Obafemi Awolowo University, Ile-Ife, Nigeria

ID 133 Lung Cancer Survival Prediction Using Random Forest Based Decision Tree Algorithms
Zakarie Hashi, Department of Statistics, Western Michigan University, Kalamazoo, MI, USA
Rabia Almamlook, Department of Industrial Engineering, Western Michigan University, Kalamazoo, MI, USA

ID 189 TKFR2: A Multifunction Robot
Nafea Alenezi, Roberto Maximo Cenidoza, Khalid Abdullah Attiatallah Al-Ghanmi and Turki Mohammed Mubarak Ahmed, Department of Electrical and Electronics Engineering Technology, Yanbu Industrial College, Yanbu Al-Sinaiyah, KSA

ID 216 Application of Open Jackson Networks for Time and Costs Reduction in the Quality Control Process in an Electronic Assembler
Argelia Vargas-Moreno, Leonardo Gabriel Hernández-Landa, Elva Patricia Puente-Aguilar and Patricia Gómez-Fuentes, Industrial Engineering and Management Area, Facultad de Ciencias Químicas, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, NL. 66451, México

ID 222 Accurate Solutions for Real Instances of the Traveling Salesman Problem using Google Maps APIs
Leonardo G. Hernández-Landa and Rosa Elena Mata-Martínez, Industrial Engineering and Administration Department, Universidad Autónoma de Nuevo León, Nuevo León, México

ID 247 Resource Scheduling Algorithm for Maintenance Planning
Sarma Yadavalli, Rikus Kellerman and Kirsten Young, Department of Industrial Engineering, University of Pretoria, South Africa

ID 254 A Study Regarding Customer Attitude Towards Advertisement and Challenges Facing Through Social Networking Website
Vikram Singh, RPIIT Technical Campus Karnal, Shanti Nagar, Kurukshetra, India

ID 257 Contribution to the Study of the Impact of Vegetationmanagement on Microclimatic Dynamics and Grape Quality
Guelmani-Hesnaoui Naima, Natural ResourcesLaboratories: Viticulture / Arboriculture, Faculty of Biological Sciences and Agronomic Sciences, Mouloud Mammeri University, Tizi-Ouzou 15 000, Algeria
Houamdi-Idir Ouiza, Natural ResourcesLaboratories: Viticulture / Arboriculture, Faculty of Biological Sciences and Agronomic Sciences, Mouloud Mammeri University, Tizi-Ouzou 15 000, Algeria
Mellak Abderrahmane, Laboratoire du Génie Physique des Hydrocarbures, FHC - Université M'Hamed Bougara, Boumerdès, 35 000, Algérie
El Heit Kaddour, Natural ResourcesLaboratories: Viticulture / Arboriculture, Faculty of Biological Sciences and Agronomic Sciences, Mouloud Mammeri University, Tizi-Ouzou 15 000, Algeria

ID 334 Study of Tensile Behavior of S355JR Steel Treated by Burnishing -Approach Superficial Hardness by Experimental Plans
Mounira BOUREBIA[1], Abdeldjalil BOURI[1], Hamid HAMADACHE[2], Lakhdar LAOUAR[3] and Sihem ACHOURI[1]
[1] Industrial Technologies Research Center. CRTI.P.O.BOX 64, Chéraga-16014, Algeria
[2] Research Laboratory in Advanced Technologies and Mechanical Production (LRTAPM), Badji Mokhtar University, Annaba, Algeria
[3] Laboratory of Industrial Mechanics, Badji Mokhtar University BP12 -2300, Annaba, Algeria

ID 352 A Two-layer Time Window Assignment Vehicle Routing Problem
Mahdi Jalilvand and Mahdi Bashiri, Department of Industrial Engineering, Shahed University, Tehran, Iran

ID 353 Managing Resource Allocation in a National Research Foundation with Multiple Conflicting National Objectives
Olufemi Adetunji and Sarma Yadavalli, Department of Industrial and Systems Engineering, University of Pretoria, Pretoria 0002, South Africa
Aldo Stroebel and Gerhard Moolman, National Research Foundation, Meiring Naude Road, Bummer, Pretoria, South Africa

ID 187 Real-time Implementation and Monitoring of Standalone Photovoltaic and Wind Energy using Microcontroller

Sami Al-johni, Wesam Doba, Abdulrahman Alrefia and Rami Aljohni, Electrical and Electronics Engineering Technology Department, Yanbu Industrial College, RCYCI, Yanbu Industrial City, Saudi Arabia
Ayman Alhejji, Electrical and Electronics Engineering Technology Department, Yanbu Industrial College, RCYCI, Yanbu Industrial City, Saudi Arabia

ID 188 An Open Source IoT Solution for Building Management
Khalid Abdulaziz Turki, Abdulaziz Salem Baabdullah, Muayad Ismail Hawsawi, Abdulellah Daifallah Assaedi, Sultan Hameed Alshaikh, Arif Rehman and Amro Bagasi, Electrical & Electronics Engineering Technology Department, Yanbu Industrial College, Kingdom of Saudi Arabia

Senior Capstone Design Poster Competition

Chair: Dr. M. Shamsuzzaman, University of Sharjah, UAE

ID 279 Solving the School Bus Routing Problem at a Local School in Kuwait
Anfal Al-Safar, Eman Al-Khayat, Hajar Al-Shawaf, Hawra Othman and Shahad Al-Shawaf, Industrial Engineering Department, American University of the Middle East, Kuwait
Magdy Helal, Associate Professor of Industrial Engineering, American University of the Middle East, Kuwait

ID 482 Can Senior Capstone Project Course provide Real-world Work Experience?
Pradeep K Behera, Professor and Chair, Department of Civil Engineering, School of Engineering and Applied Sciences, University of the District of Columbia, Washington DC, USA

September 28, 2018 (Friday)

Session: 8:00 – 9:30 am

8:00 – 9:30, FRIDAY **Global Engineering Education III** **Room 1**

Session Chair: Dr. Rezg Nidhal, University of Lorraine, Metz, France

8:00 – 8:30 **(**Friday**)**

Anjum Ali, Ph.D.
Professor, Electrical Engineering Department
Editor-in-Chief, FAST-NU Research Journal
National University of Computer and Emerging Sciences
Lahore, Pakistan

Engineering Education in Pakistan: How it changed in the past forty years

8:30 – 9:00 **(**Friday**)**

Dr. Rezg Nidhal
Professor of University
Director of LGIPM Laboratory (Laboratoire de Génie Industriel, de Production et de Maintenance)
Director of Training and Research Unit (MIM)
University of Lorraine
Metz, France

9:00 – 9:30 **(**Friday**)**

Said Kafumbe and Zine-Eddine Abid
Electrical Engineering Technology
Higher Colleges of Technology
Abu Dhabi, UAE

ID 024 Engineering Course Curriculum Development with Application Specific Mathematics Course Content
Said Kafumbe and Zine-Eddine Abid, Electrical Engineering Technology, Higher Colleges of Technology, Abu Dhabi, UAE

8:00 – 9:30, FRIDAY **Industry Solutions III** **Room 2**

Lean Six-Sigma Green Belt Workshop

SPEAKER: **Dr. Saso Krstovski, MBB**
Lean Manufacturing Coach /Six Sigma Master Black Belt
Van Dyke Transmission Plant
Ford Motor Company, Michigan, USA

8:00 – 9:30, FRIDAY Logistics and Systems Dynamics Room 3

Session Chair: Amir Hessami, Texas A&M University–Kingsville, Kingsville, TX, USA

ID 160 Modeling the Role of Policy, Innovation and Market for the Diffusion of Photovoltaic Industry in Colombia
Juan G. Castillo-Osorio, Faculty of Economic Sciences and Management, Universidad Piloto de Colombia and Pontificia Universidad Javeriana, Bogotá, Colombia
Lorena K. Vargas-Ortiz, Department of Marketing Engineering, Universidad Piloto de Colombia, Bogotá, Colombia
Milton M. Herrera, Faculty of Engineering, Universidad Piloto de Colombia and Università Degli Studi di Palermo, Bogotá, Colombia

ID 236 Assessment of a Novel Inventory Rotation Policy Using an Empirical Distribution Function (EDF) for Frozen Shrimp Supply Chain
Imran Ahmad and Mark Traynor, Food, Agriculture, and Biotechnology Innovation Lab. Chaplin School of Hospitality, Florida International University, Biscayne Bay Campus, North Miami, 33181 FL, USA

ID 264 Reverse Logistics Challenges in e-Commerce
Chiranjib Biswas and Walid Abdul-Kader, Mechanical, Automotive & Materials Engineering Department, University of Windsor, ON, Canada

ID 158 An Effective Heuristic Approach for Multiple-vehicle Routing Problems
Shivani Nilkanth Patil, Mechanical and Industrial Engineering Department, Texas A&M University–Kingsville, Kingsville, TX 78363, USA
Joon-Yeoul Oh, Mechanical and Industrial Engineering Department, Texas A&M University–Kingsville, Kingsville, TX 78363, USA
Amir Hessami, Civil and Architectural Engineering Department, Texas A&M University–Kingsville, Kingsville, TX 78363, USA

8:00 – 9:30, FRIDAY Competitions Room 4

Session Chair: Dr. Ahm Shamsuzzoha, University of Vaasa, Finland

MASTERS THESIS COMPETITION
ID 097 Numerical Simulation of Electro-Hydrodynamics Systems
Fatemeh Almasi, CORIA-UMR 6614, INSA of Rouen, France

DOCTORAL DISSERTATION COMPETITION
ID 437 Simulation and Optimization Methods Applied to Outpatient Health Center Operations
Vahab Vahdat, Department of Mechanical and Industrial Engineering, Northeastern University, Boston, MA 02114, USA

LEAN SIX SIGMA COMPETITION
ID 206 Utilization Improvement of Insulation Material Using Lean Six Sigma in Duct Manufacturing Company in Kuwait
Nourhan Hassan, Lina Hamdan, Noor Khourshed and Walid Smew, Industrial Engineering Department, American University of the Middle East (AUM), Eqaila, Kuwait

SUPPLY CHAIN AND LOGISITCS COMPETITION
ID 367 Integrated Operational Logistics Network (Ioln) Design (Case Study: Iran Khodro Automotive Co)
Javad khamisabadi, Faculty of Management, Islamic Azad University, Tehran, Iran
Mahmood Majd, Director of Logistics Engineering, IKCO, Tehran, Iran
Javad Shokoufeh Pour, Logistics Technology & Methods Integration Unit, IKCO, Tehran, Iran
Mohammad Reza Motamed, IKCO-Peugeot CEO, Tehran, Iran
Seyed Ahmad Haji Khalili, Deputy of Engineering, IKCO, Tehran, Iran
Babak Rahmani, Deputy of TPS, IKCO, Tehran, Iran

8:00 – 9:30, FRIDAY Supply Chain Management Room 5

Session Chair: Shaligram Pokharel, Qatar University, Doha, Qatar

ID 235 Integration in supply chains. Case study in Colombia and Ecuador
Neyfe Sablón Cossío, Career Industrial Engineering, Universidad Técnica de Manabí, Portoviejo, Ecuador
Alexander Pulido Rojano, Industrial Engineering, Universidad Simón Bolivar, Barranquilla, Colombia
Erik Orozco Crespo, Career Industrial Engineering, Universidad Técnica del Norte, Ibarra, Ecuador
Monserrate Ruíz Cedeño, Unidad de Cooperación Universitaria, Universidad Técnica de Manabí, Portoviejo, Ecuador

ID 315 Impacts of Low Productivity in Apparel Value Chain
Shibbir Ahmad, Department of Mechanical Engineering, Dhaka University of Engineering and Technology, Dhaka, 1700, Bangladesh
Sumon Kishore Badra and M.Iqbal, Department of IPE, Shah Jalal University of Science and Technology, Sylhet, 3100, Bangladesh

ID 109 Application of Artificial Neural Network to Analysis of Campus Water Pipe Failure
Paul Amaechi Ozor, Solomon Onyedeke and Charles Mohwa, Department of Quality and Operations management, University of Johannesburg, South Africa

ID 400 Modeling Prepositioning of Resources for Humanitarian Logistics
Shaligram Pokharel, Department of Mechanical and Industrial Engineering, Qatar University, P.O. Box 2713, Doha, Qatar
Jose Holguin-Veras, Department of Civil and Environmental Engineering, Rensselaer Polytechnic Institute, Troy, NY 12180, USA

8:00 – 9:30, FRIDAY **Engineering Management** **Room 6**

Session Chair: Anjum Ali, FAST- National University of Computer and Emerging Sciences, Lahore, 54700, Pakistan

ID 067 The Impact of Total Quality Management Practices on Organizational Performance of SMEs in Pakistan
Kamna Anam, Faculty of Management Sciences, Center for Advanced Studies in Engineering (CASE), Quaid-i-Azam University, Islamabad, Pakistan

ID 095 Perfect Repair Tenability Drawbacks in Manufacturing Firms – A Case Study
Peter Muganyi, Department of Engineering Management, University of Johannesburg, Johannesburg, South Africa
Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

ID 116 Quality Build Plans Significance to Guaranteeing Physical Assets Reliability
Peter Muganyi, Department of Engineering Management, University of Johannesburg, Johannesburg, South Africa
Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

ID 117 Physical Assets Reliability through a Mix of Surveillance and Scheduled Maintenance
Peter Muganyi, Department of Engineering Management, University of Johannesburg, Johannesburg, South Africa
Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

ID 118 Safety and Environmental Compliance Impacts to Physical Assets Maintenance
Peter Muganyi, Department of Engineering Management, University of Johannesburg, Johannesburg, South Africa
Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

8:00 – 9:30, FRIDAY **Operations Management** **Room 7**

Session Chair: Khathutshelo Mushavhanamadi, University of Johannesburg, South Africa

ID 411 Analyzing the Status Quo of Enterprise Resource Planning Implementation in SMEs
Abigail Lekhuleni, Ndala Yves Mulongo and Pule Aaron Kholopane, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006, South Africa

ID 448 Evaluating Employee Performance to Improve Customers Waiting Time at a South African Bank
Dineo Mbalati and Takalani Nemarumane, Department of Quality and Operations Management, University of Johannesburg, Auckland Park, 2006, Johannesburg, South Africa

ID 449 An approach to Issues of Stress Management and Burnout in the South African Defence
Palesa Mphou and Takalani Nemarumane, Department of Quality and Operations Management, University of Johannesburg, Auckland Park, 2006, Johannesburg, South Africa

ID 452 Identifying the Most Common Issue in Project Management and How South African Firms Cope With It – A Case Study of Company X
Khathutshelo Mushavhanamadi and Bruce Javani, Department of Quality and Operations Management Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006 South Africa

ID 453 The Impact of Poor Quality in South African Automobile Manufacturing Industry Leading to Customer Dissatisfaction
Khathutshelo Mushavhanamadi and Liyama Xundu, Department of Quality and Operations Management Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006 South Africa

ID 454 Analysing the Impact of Enterprise Resource Planning (ERP) in Improvising Business Operations of Cooperatives
Khathutshelo Mushavhanamadi and Lerato Octavia Mpanza, Department of Quality and Operations Management Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006 South Africa

9:40 – 11:00 am: **Friday Morning Keynote I & II** – Student Center Ballroom

9:40 – 10:20 am: **Friday Morning Keynote I**

Dr. Jose Luis Guerrero-Cusumano
Associate Professor of Operations and Information Management
McDonough School of Business

Georgetown University
Washington D.C., USA

10:20 – 11:00 am: **Friday Morning Keynote II**

John H. James, Jr.
Executive Director
Missile Defense Agency

11:00 – 11:30 – Networking Break - Student Center Ballroom

Session – Friday (September 28): 11:30 am – 1:00 pm

11:30 – 1:00, FRIDAY **Global Engineering Education IV** **Room 1**

Session Chair: Dr. Bachtiar H. Simamora, Bina Nusantara University, Jakarta, Indonesia

11:30 – 12:00 **(**Friday**)**

Dr. Adedeji Badiru
Dean
Graduate School of Engineering and Management
Air Force Institute of Technology
Wright-Patterson AFB, OH

ID 159 An Integrative Systems Engineering Framework for Operational Excellence
Adedeji Badiru, Air Force Institute of Technology, United States

12:00 – 12:30 **(**Friday**)**

Prof Clinton Aigbavboa., Ph.D.
Vice Dean: Postgraduate Studies, Research and Innovation
Head: Sustainable Human Settlement and Construction Research Centre
Faculty of Engineering and the Built Environment
University of Johannesburg, Johannesburg, RSA
Editor - Journal of Construction Project Management and Innovation (JCPMI)

12:30 – 13:00 **(**Friday**)**

Dr. Bachtiar H. Simamora
Associate Professor
Leader of Performance Excellence Research Group
Bina Nusantara University
Jakarta, Indonesia

11:30 – 1:00, FRIDAY **Industry Solutions IV** **Room 2**

Lean Six-Sigma Green Belt Workshop

SPEAKER: **Dr. Saso Krstovski, MBB**
Lean Manufacturing Coach /Six Sigma Master Black Belt
Van Dyke Transmission Plant
Ford Motor Company, Michigan, USA

11:30 – 1:00, FRIDAY **Maintenance Services** **Room 3**

Session Chair: Edgar Granda, Universidad de Monterrey, San Pedro Garza García, N.L., México

ID 112 Availability Based Comparison of Fixed Age and Life Cycle Cost Replacement
Paul Amaechi Ozor and Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 113 Application of Artificial Neural Network to Analysis of Campus Water Pipe Failure
Paul Amaechi Ozor, Solomon Onyekachukwu Onyedeke and Charles Mbohwa, Department of Quality and Operations management, Faculty of Engineering and the Built Environment, University of Johannesburg, APB, 2092, South Africa

ID 242 Increase of Operational Reliability of Heterocomposite Polymeric Materials of Machine-Building Designation Operating under Conditions of Hydro Abrasive Wear
Djumabaev A.B., Xalimov Sh.A., Sobirov B.A. and Qaraev F.J., Tashkent State Technical University named after Islam Karimov, Uzbekistan

ID 409 Analyzing the Effectiveness of Overhaul Maintenance in the Energy Sector: A Critical Review
Shocky Seloane, Ndala Yves Mulongo and Clinton Aigbavboa, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX 524, Auckland Park, 2006, South Africa

ID 418 A Review of Preventative Maintenance on South African Electricity Sector
Shocky Seloane, Ndala Yves Mulongo and Clinton Aigbavboa, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX 524, Auckland Park, 2006, South Africa

ID 344 Optimization Model of Maintenances Services Routes
Edgar Granda & Gerardo Frutos, Universidad de Monterrey, San Pedro Garza García, N.L., México

11:30 – 1:00, FRIDAY Artifical Intelligence Room 4

Session Chair: Lawrance Seseni, University of Johannesburg, Auckland Park, RSA

ID 115 Fuzzy Logic Approach to Predicting Unsecured Workers' Work Stations: Exploiting Injuries Frequency
Hezekiah Oluwole Adeyemi, Department of Mechanical Engineering, Olabisi Onabanjo University, Ago-iwoye, Nigeria

ID 123 Offline Handwritten Digits Recognition Using Machine Learning
Shengfeng Chen, Rabia Almamlook, Yuwen Gu and Lee Wells, Dept. of Industrial Engineering Western Michigan University, Kalamazoo, MI, USA

ID 200 A programming model based on Interaction Nets
Joaquín F Sánchez, Jorge A Quiñones and Juan M Corredor, National University of Colombia, Bogota, Colombia

ID 316 Prediction Model for World Ranking of Young Universities using Artificial Neural Network
Segun I. Popoola and Aderemi A. Atayero, Department of Electrical and Information Engineering, Covenant University, Ota, Nigeria
Oluwaseun J. Adeyemi, Center for Systems and Information Services, Covenant University, Ota, Nigeria

ID 424 Some Recent Developments in Image Segmentation
Li Chen, Department of Computer Science and Information Technology, University of the District of Columbia, Washington, DC 20008, USA

ID 447 The implications of Artificial Intelligence on Soweto Furniture Manufacturing SMEs
Lawrance Seseni and Charles Mbohwa, Department of Quality and Operations, University of Johannesburg, Auckland Park, RSA

11:30 – 1:00, FRIDAY Logisitcs Room 5

Session Chair: Ehsan Teymourian, Rutgers, the State University of New Jersey, Newark & New Brunswick, USA

ID 056 Logistic Cost Optimization for Domestic Market Operations in a Snacks and Candy Company
Teresa Verduzco-Garza, Engineering & Technologies Division, Dept. of Engineering, Universidad de Monterrey, San Pedro Garza García, NL, Mexico
Edgar Granda, Engineering Graduate Studies Department, Universidad de Monterrey, San Pedro Garza García, NL, 66238, Mexico
Ana Cecilia Davila, Industrial and Systems Engineering Department, Universidad de Monterrey, San Pedro Garza García, NL, 66238, Mexico
Dulce Angelica Ibarra, Industrial and Systems Engineering Department, Universidad de Monterrey, San Pedro Garza García, NL, 66238, Mexico
Pamela Aimee Alanis, Industrial and Systems Engineering Department, Universidad de Monterrey, San Pedro Garza García, NL, 66238, Mexico
Bernardo Villarreal, Engineering & Technologies Division, Department of Engineering, Universidad de Monterrey, San Pedro Garza García, NL, 66238, Mexico

ID 139 Proposal for the Implementation of a Bio Digester with Reverse Logistic in "Escuela De Caninos Bogota Colombia"
Valeria Mendoza Cortes, Student, Escuela Logística del Ejercito Nacional De Colombia, Bogotá, Colombia
Jhon Jairo Parra Rodríguez, Mayor of the Colombian Army, Escuela Logística del Ejercito Nacional De Colombia, Bogotá, Colombia
John Jairo Ramos Forero, Captain of the Colombian Army, Escuela Logística del Ejercito Nacional De Colombia, Bogotá, Colombia
Luis Eduardo Rivera Virgüez, Industrial Engineer – Professor, Escuela Logística del Ejercito Nacional De Colombia, Bogotá, Colombia
Alexander Parra Rodríguez, System Engineer – Research Advisor, Escuela Logística del Ejercito Nacional De Colombia, Bogotá, Colombia

ID 168 Improved Optimality of Vendor Managed Inventory
Huzef Maqsoodali Kadri, Shrikant Pachpande, Gautham Sekar and Mohamed Awwad, Industrial and Systems Engineering Department, University at Buffalo, The State University of New York, Buffalo, NY 14260, USA

ID 193 Efficiency Improvement in Urban Distribution Centers (Udcs) Using Maintenance and Subcontracting Policies
Nadia Ndhaief and Nidhal Rezg, LGIPM-Lorraine University, Metz, France
Olivier Bistorin, LGIPM-ICN Business School, Metz, France

ID 517 Blockchain in Logistics: Mapping the Opportunities in Construction Industry
Ari Sivula, Ahm Shamsuzzoha and Petri Helo, School of Technology and Innovations, University of Vaasa, Wolffintie Vaasa, Finland

ID 271 Reliable Capacitaed Single Allocation Hub Network Design under Hub Failure: A Scenario Based Approach
Zahra Booyavi, Department of Industrial Engineering, Science and Culture University, Tehran, Iran
Hamidreza Eskandari, Faculty of Management and Economics, Tarbiat Modares University, Tehran, Iran
Ehsan Teymourian, Department of Management Science and Information Systems, Rutgers, the State University of New Jersey, Newark & New Brunswick, USA

11:30 – 1:00, FRIDAY Information Systems and Management Room 6

Session Chair: Laurent Tchommo, Operations Management, Department of CIS & BSAN, College of Business, James Madison University

ID 143 Broadband Superhighway; A Detailed Analysis of Nigeria Trans-Atlantic Fibre Optics Cables: Comparing MainOne Cable, Glo-1 Cable, WACS and SAT3
Uzairue Stanley[1], Nsikan Nkordeh[2], Ibinabo Bob-Manuel[3] and Victor Matthews Olu[4]
[1,2,4]Electrical and Information Engineering, Covenant University, Ota Nigeria
[3]IT Consultant, Nigeria

ID 155 Evaluation of Mobile Instant Messaging (MIM): A Study of Continuance Intention to Use Whatsapp
Marcos Francisco Briskiewicz and Gilson Ditzel Santos, Master Program in Production Engineering and Systems, Universidade Tecnológica Federal do Paraná, Pato Branco – PR, Brazil

ID 198 How Much Demographically Diversified are They in Making Decision to Invest in ICT Companies? A Study on Two Million Bangladeshi Investors
Md. Rakibul Hasan and Asif Imtiaz, Lecturer, Department of Management Information Systems, Faculty of Business Studies, University of Dhaka, Dhaka – 1000, Bangladesh
Md. Shakil Ahmad, Department Head- Advisory Services, United Finance Limited, 22, Kazi Nazrul Islam Avenue, Dhaka-1000
Mina Mahbub Hossain, Assistant Professor, Department of Tourism and Hospitality Management, University of Dhaka, Dhaka-1000, Bangladesh

ID 376 Early Flood Detection and Monitoring System Based on Wireless Sensor Network
Uyioghosa B. Iyekekpolo, Francis E. Idachaba and Segun I. Popoola, Department of Electrical and Information Engineering, Covenant University, Ota, Nigeria

ID 435 Software-Defined Networking: Current Trends, Challenges, and Future Directions
Abigail O. Jefia, Segun I. Popoola and Aderemi A. Atayero, Department of Electrical and Information Engineering, Covenant University, Ota, Nigeria

11:30 – 1:00, FRIDAY Operations Management Room 7

Session Chair: Farzad Firouzi Jahantigh, University of Sistan and Baluchestan, Zahedan, Iran

ID 455 Analysing the Impact of Service Quality on Business Competitiveness
Khathutshelo Mushavhanamadi and Oratile Neo Ratlhagane, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment University of Johannesburg, PO BOX, 524, Auckland Park, 2006 South Africa

ID 456 The Impact of Plant Maintenance on Quality Productivity in Gauteng Breweries
Khathutshelo Mushavhanamadi and Brian Tumiso Selowa, Department of Quality and Operations Management Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006 South Africa

ID 046 VAM - MODI Mathematical Modelling Method for Minimizing Cost of Transporting Perishables from Markets to Cafeterias in Covenant University
[1,2]Agarana M.C, [3]Omogbadegun Z.O. and [3]Makinde S.O.
[1]Department of Mathematics, Covenant University, Nigeria
[2]Department of Mechanical Engineering Science, University of Johannesburg, South Africa
[3]Department of Computer and Information Sciences, Covenant University, Nigeria.

ID 047 Managing Factors Responsible for Climate Change in Nigeria using Mathematical Modelling Technique
[1,3]Michael C. Agarana and [2]Olajide Oluwole
[1]Department of Mathematics, Covenant University, Nigeria
[2]Department of Computer and Information Sciences, Covenant University, Nigeria
[3]Department of Mechanical Engineering Science, University of Johannesburg, South Africa

ID 055 Call Center Experience Optimization: A Case for a Virtual Predictive Queue
William Keith Pugh, College of Business, Department of Information Systems and Cyber Security, The University of Texas at San Antonio, San Antonio, TX 78249, USA

ID 114 The applicability of FTOPSIS and GP in Ranking (Case Study: Refinery's Contractors)
Farzad Firouzi Jahantigh, Assistant Professor, Department of Industrial Engineering, University of Sistan and Baluchestan, Zahedan, Iran
Sara Aryaee, PhD student in Industrial Management (Operation Research), Faculty of Management, University of Tehran, Tehran, Iran

1:00 – 2:30 pm – Friday Networking Lunch Buffer and Lunch Keynote – Student Center Ballroom

14:00 – 2:00 pm - Lunch Keynote
Professor Cecilia Nembou

President and Vice-Chancellor
Divine Word University
Papua New Guinea

Systems Thinking Applied in a University

ID 107 Systems Thinking in a University
Cecilia Nembou, Divine Word University, Konedobu, Port Moresby, National Capital District, Papua New Guinea

Session – Friday (September 28): 2:30 – 4:00 pm

2:30 – 4:00, FRIDAY **Global Engineering Education V** **Room 1**

Session Chair: Prof. Pule Kholopane, University of Johannesburg, Johannesburg, South Africa

2:30 pm – 3:00 **pm (**Friday**)**

Prof. Pule Kholopane
Associate Professor
Head of Department: Quality and Operations Management
Department of Quality and Operations Management
Faculty of Engineering and the Built Environment
University of Johannesburg
Johannesburg, South Africa

3:00 – 3:30 (Friday)

Pradeep K. Behera, Ph.D., PE, D. WRE
Professor and Chair
Civil Engineering Department
School of Engineering and Applied Sciences
University of the District of Columbia
4200 Connecticut Avenue NW
Washington, DC 20008

3:30 – 4:00 **(**Friday**)**

Dr. Lina Alvarado
Department of Industrial Engineering
Investigative group of Industrial and Environmental Processes (GIPIA)
University of Cundinamarca, Bogotá D.C - Soacha
Colombia

ID 223 Design of an Architectural Traceability as an Observatory for Decision Making in Undergraduate Curriculums
Lina Nataly Alvarado Riaño and Jefferson Aldamer Rubiano Forero, Department of Industrial Engineering, Investigative group of Industrial and Environmental Processes (GIPIA), University of Cundinamarca, Bogotá D.C - Soacha, Diagonal 9 No. 595, Colombia

2:30 – 4:00, FRIDAY **Industry Solutions** **Room 2**

Lean Six-Sigma Green Belt Workshop

SPEAKER: **Dr. Saso Krstovski, MBB**
Lean Manufacturing Coach /Six Sigma Master Black Belt
Van Dyke Transmission Plant
Ford Motor Company, Michigan, USA

2:30 – 4:00, FRIDAY **E-Business and Cybersecurity** **Room 3**

Session Chair: Anshu Arora, University of the District of Columbia

ID 099 A Scientometric Study of Twitter
Ecem Basak, Levent Atahan and Fethi Calisir, Industrial Engineering Department, Management Faculty,Istanbul Technical University, Macka, Istanbul 34367, Turkey

ID 208 Analysis of Methods and Techniques Used For Intrusion Detentions in Mobile Device

Olorunfemi Tope Roseline and Nwulu Nnamdi, Department of Electrical and Electronic Engineering Science, University of Johannesburg, Auckland Park Kingsway Campus, 2006, South Africa

ID 209 Technology Detection of Spam SMS in Mobile Phones
Olorunfemi Tope Roseline and Nwulu Nnamdi, Department of Electrical and Electronic Engineering Science, University of Johannesburg, Auckland Park Kingsway Campus, 2006, South Africa

ID 521 Analyzing the Moderating Role of Culture in Online Social Networks through Social Spatial Imagery, Xenocentrism, and Word-Of-Mouth
Anshu Arora and Amit Arora, University of the District of Columbia
Vas Taras, University of North Carolina at Greensboro

2:30 – 4:00, FRIDAY Systems Engineering Room 4

Session Chair: Rina Sadia, Department of Industrial Engineering, Shenkar College of Engineering and Design, Israel

ID 022 Extended Work: Empirical Correlation of Consistency and Time of Trajectory for Industrial Robotics
[a, b, c] Hayder Zghair, [c] Ahad Ali and [c] Salem Lakrash
[a] Engineering Department of Automated Manufacturing Systems, University of Baghdad, Main Campus, Aljadria St., Baghdad, IQ 00964
[b] Industrial and Manufacturing Engineering Department, Kettering University, 1700 University Ave., Flint, MI 48504
[c] A. Leon Linton Department of Mechanical Engineering, Lawrence Tech University, 21000 West Ten Mile Road, Southfield, MI 48075

ID 061 Modeling Management Strategy Impacts on the Organization Effectiveness and on Social System
Rina Sadia, Department of Industrial Engineering, Shenkar College of Engineering and Design, 12 Anna Frank St. Ramat-Gan 52526, Israel

ID 312 Wireless Sensor Networks: Architecture, Applications, and Challenges
Uyioghosa B. Iyekekpolo[1], Francis E. Idachaba[1], Francis Mensah[2], Segun I. Popoola[1] and Aderemi A. Atayero[1]
[1]Department of Electrical and Information Engineering, Covenant University, Ota, Nigeria
[2]Department of Electrical Engineering, Ghana Technology University College, Accra, Ghana

ID 141 Methodology for the Analysis of the Value Chain in Servuccion Systems: Case Industry of Hospitality
Hernando Garzón Saenz, Darwin Ramos Franco and Stherlyn Imitola Villa, Grupo de investigación CIPTEC - Facultad de Ingeniería - Programa de Tecnología en Producción Industrial - Fundacion Universitaria Tecnologico Comfenalco - Cartagena, Cartagena de Indias -Colombia

2:30 – 4:00, FRIDAY Supply Chain and Sustainability Room 5

Session Chair: Kanchan Das, College of Engineering and Technology, East Carolina University, Greenville, NC, USA

ID 220 Sustainable Supply Chain Design using Two-stage Stochastic Modeling under Demand Uncertainty
Vahab Vahdat, Amir T. Namin and Rana Azghandi, Department of Mechanical and Industrial Engineering, Northeastern University Boston, MA, USA

ID 366 Corporate Social Responsibility in the Manufacturer Supply Chain of the Luxury Fashion Industry
Neamat Gamal Saleh AHMED, Department of Mechanical Engineering, Faculty of Engineering, Fayoum University, Fayoum, Egypt
Hussien Abdel Aziz HEGAB, Mechanical Design and Production Engineering Department, Faculty of Engineering, Cairo University, Giza, Egypt
Ahmed Hamdi MANSI, Department of Civil and Environmental Engineering, Politecnico di Milano, Milano, Italy

ID 217 Green Supply Chain Management and Sustainable Industrial Practices: Bridging the Gap
Peter Onu and Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, P. O. Box 524, Johannesburg, South Africa

ID 244 Energy Conservation Framework for Green Supply Chain Management
Mohammad Ali Vahdatzad, Department of Industrial Engineering, Yazd University, PO box 89195741, Yazd, Iran
Vahab Vahdat, Amir T. Namin, Department of Mechanical and Industrial Engineering, Northeastern University, Boston, MA 02114, USA
Ali Mohammad Rezai, Planning & Control Unit, Yazd Province Gas Company, Yazd, Iran

ID 156 Integrating Lean, Green, and Resilience Criteria in Designing a Sustainable Food Supply Chain
Kanchan Das, College of Engineering and Technology, East Carolina University, Greenville, NC 27858, USA

2:30 – 4:00, FRIDAY Healthcare Systems Room 6

Session Chair: Anthony Dixon, University of Central Florida Orlando, FL USA

ID 082 Multiple Criteria Master Surgical Scheduling Problem: A Case Study
Amirhosein Mohsenigol, Department of Industrial Engineering, Mazandaran University of Science and Technology, Mazandaran, Iran
Ashkan Mozdgir, Department of Industrial Engineering, K. N. Toosi University of Technology, Tehran 15875/4416, Iran
Shabnam Bozorgzadeh, Department of Obstetrics and Gynecology, Iran University of Medical Sciences, Tehran, Iran
Azin Samiei, Bachelor of Industrial Engineering, West Tehran Islamic Azad University, Tehran, Iran
Behnood Ghasriani, Department of Management, Islamic Azad University Central Tehran Branch, Tehran, Iran

ID 121 The New Reliance on the Industrial Engineer to Help Transform Healthcare
Tony Chihak, Mayo Clinic, MN, United States

ID 130 Anthropometric Study of Facial Indices among Bangladeshi Women
Abu Raihan Bhuiyan, University Utara Malaysia, Malaysia

ID 194 Measuring Hospital Environmental Performance: An Alternative Approach
Andreia Pasqualini Blass and Lilian Adriana Borges, Operations Management Division, Unidavi, Rio do Sul, SC, Brazil
Sergio Eduardo Gouvea da Costa and Edson Pinheiro de Lima, Industrial and Systems Engineering, Pontifical Catholic University of Parana, Federal University of Technology – Parana, Curitiba, PR, Brazil

ID 225 Simulation and Implementation of Mobile Technology Resources to Enhance Healthcare Service Delivery for Breast Cancer Patients in Developing Nations
Anthony Dixon, Pamela McCauley and Nawaf Khan, Department of Industrial Engineering & Management Systems, College of Engineering & Computer Science, University of Central Florida Orlando, FL USA

ID 311 A Framework about Using Internet of Things for Smart Cancer Treatment Process
M. Heshmat and Abdel-Rahman S. Shehata, Mechanical Engineering Department, Assiut University, E-JUST, Egypt

2:30 – 4:00, FRIDAY — Operations Research — Room 7

Session Chair: Nazha Gali, University of the District of Columbia, Washington DC, USA

ID 166 Large Neighborhood Search for Outbound Truck Scheduling Problem in a Cross-docking
Warisa Wisittipanich and Nattapong Kamsura, Department of Industrial Engineering, Excellence Center in Logistics and Supply Chain Management Faculty of Engineering, Chiang Mai University, Thailand

ID 169 An Optimization Method for Sustainable Multi-level Capacitated Production Planning with Carbon Emissions
Tao Wu, Ameya Dhaygude and Barnali Bhattacharjee, Advanced Analytics Department, Dow Chemical, 48642 Midland, MI, USA

ID 186 A Capacitated Location-Inventory Model with Stochastic Demand and Coverage Radius Constraint
Milad Khajehnezhad, Department of Manufacturing & Industrial Engineering, College of Engineering & Applied Sciences, University of Wisconsin-Milwaukee, Milwaukee WI 53202, USA

ID 219 A Linear Programming Model to Optimize the Production Process in Software Development
Israel D. Herrera Granda, Jorge A. Castro Querembas, Christopher S. Estrella Grijalva, Roberto M. Álvarez Quishpe, Leandro L. Lorente Leyva and Carlos A. Machado Orges, Facultad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte, Ibarra, Ecuador

ID 534 Complementary regression of entrepreneurial orientation (EO)
Nazha Gali, School of Business & Public Administration, University of the District of Columbia, Washington DC, USA

4:00 – 4:30 pm – Networking Break - Student Center Ballroom

Session – Friday (September 7): 4:30 – 6:00 pm

4:30 – 6:00, FRIDAY — Global Engineering Education VI — Room 1

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

4:30 pm – 5:00 **pm (**Friday**)**

Dr. Rumi Tobita
Associate Professor
Department of Innovative Engineering
Ashikaga University
Ashikaga, Tochigi, Japan

ID 248 Integrating Analysis with NIRS and Active-Learning strategies for Developing an Effective ESP Course Design
Dr. Rumi Tobita, Associate Professor, Department of Innovative Engineering, Ashikaga University, Ashikaga, Tochigi, Japan

5:00 pm – 5:30 pm **(**Friday**)**

Dr. Tonya Smith-Jackson
Professor
Department of Industrial and Systems Engineering
North Carolina Agricultural and Technical State University
Greensboro, NC, USA
Program Director (rotator) at the National Science Foundation (NSF/CISE Directorate/IIS Division)

Dr. G. Don Taylor
Vice Provost for Learning Systems Innovation and Effectiveness
Charles O. Gordon Professor
Virginia Tech
Blacksburg, VA, USA

ID 286 Empowering Undergraduate Student Researchers through Inclusive Research Learning Systems
Tonya Smith-Jackson, Dept. of Industrial and Systems Engineering, North Carolina Agricultural & Technical State University, Greensboro, NC, USA

G. Don Taylor, Learning Systems Innovation and Effectiveness, Virginia Tech, Blacksburg, VA, USA

5:30 pm – 6:00 pm **(**Friday**)**

Michael S. Mkwanazi
Research Associate
Faculty of Engineering and the Built Environment
University of Johannesburg
South Africa

Professor Charles Mbohwa
Acting Executive Dean
Faculty of Engineering and the Built Environment (FEBE)
University of Johannesburg
South Africa

ID 135 Education Programmes for Manufacturing Cooperatives: United Kingdom and South Africa Study
Sizwe Mkwanazi and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

4:30 – 6:00, FRIDAY **Industry Solutions VI** **Room 2**

Lean Six-Sigma Green Belt Workshop

SPEAKER: **Dr. Saso Krstovski, MBB**
Lean Manufacturing Coach /Six Sigma Master Black Belt
Van Dyke Transmission Plant
Ford Motor Company, Michigan, USA

4:30 – 6:00, FRIDAY **Lean Six Sigma** **Room 3**

Session Chair: Neamat Gamal Saleh AHMED, Fayoum University, Fayoum, Egypt

ID 408 Analyzing the implementation of Lean in the Fast-Moving Consumer Goods sector: Critical Review
Tumelo Owen Matinga, Ndala Yves Mulongo and Pule Aaron Kholopane, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006, South Africa

ID 412 A Theoretical analysis of Lean implementation in Airline industry
Linda Malifete, Ndala Yves Mulongo and Pule Aeron Kholopane, Faculty of Engineering and the Built Environment, University of Johannesburg, P O BOX 524, Auckland Park, South Africa

ID 285 Analysis of Medicare Spending Per Beneficiary (MSPB)
Nicholas Bowers, Jared Cirelli, Alyssa Andrzejewski, Joseph Lang and Faisal Aqlan, Industrial Engineering Department, Penn State Erie, The Behrend College, Erie, PA 16563, USA
Anne Pedersen, MSN, RN, NEA-BC, UPMC Hamot, Erie, PA 16550, USA

ID 406 An Assessment of Status-Quo of Lean Manufacturing Implementation in Food Industry: A Critical Review
Magaly Madeleine Bolipombo, Ndala Yves Mulongo and Clinton Aigbavboa, Faculty of Engineering and Built Environment, University of Johannesburg, PO BOX, 524, Auckland Parl, 2006, South Africa

ID 364 Defect Reduction Using Six Sigma Methodology in Home Appliance Company: A Case Study
Neamat Gamal Saleh AHMED, Department of Mechanical Engineering, Faculty of Engineering, Fayoum University, Fayoum, Egypt
Hanaa Soliman ABOHASHIMA, Department of Industrial Engineering, Faculty of Engineering, Fayoum University, Fayoum, Egypt
Mohamed Fahmy ALY, Department of Industrial Engineering, Faculty of Engineering, Fayoum University, Fayoum, Egypt

4:30 – 6:00, FRIDAY **Data Analytics** **Room 4**

Session Chair: Jolene Liu, University of Southern California, Los Angeles, CA 90089, USA

ID 185 A Mobile Enterprise Cockpit for Big Data Analysis and Decision Support
Alfred Wulff, Larissa Janssen and Christoph Wunck, Department of Management, Information, Technology, Jade University of Applied Sciences, Wilhelmshaven, 26389, Germany
Jonas Kallisch, ABAT AG, Bremen, 28217, Germany
Thomas Deil, WIDE Partners GmbH, Wilhelmshaven, 26382, Germany

ID 281 Analysis and Visualization of City Crimes
Mohamed Badawy, Jared Cirelli, Howie Setyono and Faisal Aqlan, Industrial Engineering Department, Penn State Erie, The Behrend College, Erie, PA 16509, USA

ID 383 Predictive Analytics Models for Student Admission and Enrollment
Jared Cirelli[1], Andrea M. Konkol[2] and Faisal Aqlan[3]
[1,3]Industrial Engineering Department
[2]Admissions and Financial Aid
Penn State Erie, The Behrend College, Erie, PA 16563, USA
Joshua C. Nwokeji, Computer and Information Science Department, Gannon University, Erie, PA, 16541, USA

ID 385 The effects of using Big Data in Furniture Manufacturing SMEs
Lawrance Seseni and Charles Mbohwa, Department of Quality and Operations, University of Johannesburg, Auckland Park, RSA

ID 035 Using Categorical Variables in Linear Models
Jolene Liu, Sarah Kim, and Cesar Acosta-Mejia, Daniel J. Epstein Department of Industrial & Systems Engineering, University of Southern California, Los Angeles, CA 90089, USA

4:30 – 6:00, FRIDAY Design and Analysis Room 5

Session Chair: Muhammad Foyazur Rahman, University of North Carolina Charlotte, North Carolina, USA

ID 010 Design of a Retractable Chassis for a City Vehicle
Yashwantraj Seechurn, Mechanical and Production Engineering Department, University of Mauritius, Reduit, 80837, Mauritius
Lekhraj Pariag, University of Mauritius, Reduit, 80837, Mauritius

ID 167 Designing a reliable And Redundant Network for Multiple VLANs with Spanning Tree Protocol (STP) and Fast Hop Redundancy Protocol (FHRP)
Faisal Shahriar, MD Shah Newaz, Syed Zahidur Rashid and Mohammad Azazur Rahman, International Islamic University Chittagong, Bangladesh
Muhammad Foyazur Rahman, University of North Carolina Charlotte, USA5

ID 192 The Influence of Consumer Behavior on Purchase Decision on Regression-based Model: Application to Portable Kitchen
Muhammad Reza Do. Bagus, Information System Department, School of Information Management and Computer Tidore Mandiri (STMIK Tidore Mandiri), Jl. Sultan Zainal Abidin Syah No. 25, Kota Tidore Kepulauan, North Mollucas Province, 97812, Indonesia

ID 251 Design of Bread Packaging Machine for Small Scale Bakeries
Ignatio Madanhire and Batsirayi Marango, University of Zimbabwe, Department of Mechanical Engineering, Mt Pleasant, Harare, Zimbabwe
Charles Mbohwa, Department of Quality Management and Operations Management, University of Johannesburg, Auckland Park 2006, South Africa

ID 372 Design of a Groundnut Harvester: Case for Zimbabwean Farmers
Takudzwa Dhliwayo, University of Zimbabwe, Department of Mechanical Engineering, Post Office Box MP167, Mount Pleasant, Harare, Zimbabwe
Tawanda Mushiri, University of Johannesburg, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, Post Office Box APB 524 Bunting Road Campus, Johannesburg, South Africa
South Africa

ID 278 Feasibility of Power Line Communication in Bangladesh and Analyzing the Power Spectral Density of Colored Background Noise
Mohammad Woli Ullah[1], Mohammad Azazur Rahman[2], Muhammad Mostafa Amir Faisal[3], Abdul Gafur[4], Syed Zahidur Rashid[5], Amran Hasan Jony[6], Faisal Shahriar[7] and Muhammad Foyazur Rahman[8]
[1 2 3 4 5 6 7]Department of Electronic and Telecommunication Engineering, International Islamic University Chittagong, Chittagong, Bangladesh
[8]Department of Electrical and Computer Engineering, University of North Carolina Charlotte, North Carolina, USA

4:30 – 6:00, FRIDAY Operations Excellence Room 6

Session Chair: Mohammad Rahman, Central Connecticut State University, USA

ID 458 Rea Vaya BRT System Progress and Service Delivery to Commuters since Implementation
Mpho Kenny Tsotetsi, Nomathemba Resego Letlhogile, Thandeka Sithole and Sebonkile Thaba, Department of Transport and Supply Chain Management, University of Johannesburg, Auckland Park, Johannesburg, South Africa

ID 467 Investigating how Electrical Energy Hikes Impact the Manufacturing Sector
Itumeleng Sebeho and Anup Pradhan, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 468 Supplier Evaluation and Selection for Logistics Outsourcing: A Conceptual Framework
Asmaa Galal, Noha Mostafa and Hisham Elawady, Industrial Engineering Department, Zagazig University, Zagazig, Sharkia, Egypt

ID 481 Applications of Virtual Reality in Industrial Repair and Maintenance
Ahm Shamsuzzoha[1], Petri Helo[1], Timo Kankaanpää[2], Rayko Toshev[1], and Viet Vu Tuan[3]
[1]University of Vaasa, Finland
[2]Vaasa University of Applied Sciences, Finland
[3]Wärtsiä, Finland

ID 483 Improving of Engineering System Based on Fuzzy Logic Control in Industrial Applications
M. M. Sayed, M.H. Saleh, Tarek Madbouly , Eman Serag , Shady Ali, Naguib Saleh and Naguib Saleh, Canadian International College "CIC", Egypt

ID 497 Humanitarian Supply Chain Demand Modeling Using Bayesian Approach
Mohammad Rahman, Central Connecticut State University, USA

4:30 – 6:00, FRIDAY **Operations Research** **Room 7**

Session Chair: Sujan Piya, Sultan Qaboos University, Oman

ID 170 A Polynomial Time Algorithm for the Intermodal Hub Location Problem
Tao Wu, Ameya Dhaygude and Barnali Bhattacharjee, Advanced Analytics Department, Dow Chemical, Midland, MI, USA

ID 512 Role of value stream mapping in process development: A Review
Rahul S Mor, Sarbjit Singh, Rahul Bhoria and Arvind Bhardwaj, Department of Industrial & Production Engineering, National Institute of Technology, Jalandhar, Punjab, India

ID 533 Effective Utilization of Implementing Lean Six Sigma Framework in Non-Profit Organizations
Ahmed Aljabr, A. Leon Linton Department of Mechanical Engineering, College of Engineering, Lawrence Technological University, Southfield, MI, USA
Mukdam Kena, Ford Motor Company, Dearborn, MI 48124, USA
Rayan Alhazmi, CEO and Founder, Hand by Hand Organization, Saudi Arabian Cultural Mission, 8500 Hilltop Rd, Fairfax, VA 22031
Daw Alwerfalli, Professor and Director of Master of Engineering Management, Lawrence Technological University, Southfield, MI. 48075

ID 513 Modular Product Development – Mapping and Prioritizing the Driving Factors by Interpretive Structural Modelling
Ahm Shamsuzzoha, University of Vaasa, Finland
Sujan Piya, Mohammad Taukiruzzaman and Mohammad Khadem, Sultan Qaboos University, Oman

4:30 – 6:00, FRIDAY **Sustainability** **Room 8**

Session Chair: Úrsula Maruyama, Strategic Management Officer/Business Administration School, Cefet/RJ, Rio de Janeiro, Brazil

ID 227 Solid Waste Valorization Strategy in Bogota- Colombia as a Sustainable City Component
William E. Mosquera-Laverde, Faculty of administrative and economic sciences, Universidad Cooperativa de Colombia, Bogotá D.C., Colombia
Gerardo Avendaño-Prieto, Faculty of Business Administration, EAN University, Bogota Colombia

ID 246 Sustainability Management in Higher Education Institution: 2030 Agenda's International Partnership Case Study
Úrsula Maruyama, Strategic Management Officer/Business Administration School, Cefet/RJ, Rio de Janeiro, Brazil
Carine Nunes, Strategic Planning Coordination, IFTO, Tocantins, Brazil
William de Sousa Dias, Strategic Planning Coordination, IFTO, Tocantins, Brazil
Aline Trigo, Environmental Strategy Division, Cefet/RJ, Rio de Janeiro, Brazil
José Aires Trigo, Management and Engineering Department, UNESA, Rio de Janeiro, Brazil

ID 277 Hybrid Renewable Energy Systems: Opportunities and Challenges in Sub-Saharan Africa
Ayooluwa A. Ajiboye, Segun I. Popoola and Aderemi A. Atayero, Dept. of Electrical and Information Engineering, Covenant University, Ota, Nigeria

ID 317 Challenges of Sustainable Low-Income Housing Delivery in Harare, Zimbabwe
Douglas Aghimien, Clinton Aigbavboa and Tatenda Ngwari, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 404 Sustainability Analysis of Food Manufacturing SMEs – A Critical Review
Slindile Mbuyane, Ndala Mulongo and Clinton Aigbavboa, Faculty of Engineering and the Built Environment, University of Johannesburg, KSA

ID 410 An Analysis of Sustainability Practices in the Construction Sector: A Critical Review
Malingaka Maoeng, Ndala Yves Mulongo and Clinton Aigbavboa, Faculty of Engineering & the Built Environment, University of Johannesburg, KSA

ID 163 Effectiveness of Proper Health and Hygiene Practices: A Study on Ensuring Hygienic Environment in Bangladeshi Tourist Destinations
Md. Kamruzzaman, Assistant Professor, Dept. of Tourism and Hospitality Management, Faculty of Business Studies, Univ. of Dhaka, Bangladesh
Mahfuza Sultana Fariha, Masters of Business Administration (MBA), Tourism and Hospitality Management, Faculty of Business Studies, University of Dhaka, Bangladesh

6:00 – 6:30 pm – Networking Break - Student Center Ballroom Lobby

6:30 pm – 9:30 pm (Friday)

CONFERECE AWARD DINNER

Student Center Ballroom

Awards Keynote **- Dr. Claudia Rankins,** Program Officer, Directorate for Education and Human Resources, National Science Foundation

September 8, 2018 (Saturday)

Session: 8:00 – 9:30 pm

8:00 – 9:30, SATURDAY Global Engineering Education VII Room 1

Session Chair: Professor Lillian Kamal, University of Hartford, Connecticut, USA

Challenges and opportunities in curriculum development for Business Analytics

8:00 am – 9:30 am (Saturday)

Professor James Peta Jr
Visiting Professor of Economics
Department of Economics, Finance and Insurance
Barney School of Business
University of Hartford

ID 510 Delivery of Quant and Business Statistics courses to the Business students and developing MS in Business Analytics to meet the demands of the businesses
James Peta Jr, Department of Economics, Finance and Insurance, Barney School of Business, University of Hartford, CT, USA

Professor Lillian Kamal
Associate Professor of Economics
Department of Economics, Finance and Insurance
Barney School of Business
University of Hartford

ID 511 Issues in creating data analytics courses
Lillian Kamal, Department of Economics, Finance and Insurance, Barney School of Business, University of Hartford, CT, USA

Professor Bharat Kolluri
Professor of Economics
Department of Economics, Finance and Insurance
Barney School of Business
University of Hartford

ID 509 What does an Introductory Course look like in Business Analytics?
Bharat Kolluri, Department of Economics, Finance and Insurance, Barney School of Business, University of Hartford

8:00 – 9:30, SATURDAY Lean Room 2

Session Chair: David Henry, Penn State Erie, The Behrend College, Erie, PA 16563, USA

ID 221 A Business Process Improvement Method
Younes Tiamaz, Mohammed V University in Rabat, EMI – SIWEB Team, Rabat, Morocco
Farid Lahboube, Moulay Ismail Hospital of Meknes, Meknes, Morocco
Nissrine Souissi, Ecole Nationale Supérieure des Mines de Rabat, Computer Science Department, Rabat, Morocco

ID 265 Cost Based Overall Equipment Effectiveness Analysis via Application of Value Stream Mapping
Sadaf Zahoor and Walid Abdul-Kader, Department of Mechanical, Automotive, and Materials Engineering, University of Windsor, Windsor, Canada
Hamza Ijaz, Atif Qayyum Khan, Zeeshan Saeed and Shoaib Muzaffar, Department of Industrial and Manufacturing Engineering, University of Engineering and Technology, Lahore, Pakistan

ID 283 Analysis of Production Layout Alternatives Using Lean and Monte Carlo Simulation
David Henry, David Shindledecker and Faisal Aqlan, Master of Manufacturing Management (MMM) Program, Penn State Erie, The Behrend College, Erie, PA 16563, USA

ID 502 Fourth Industrial Revolution and its impact on Furniture Manufacturing SMEs
Lawrance Seseni and Charles Mbohwa, Department of Quality and Operations, University of Johannesburg, Auckland Park, RSA

8:00 – 9:30, SATURDAY Engineering Education Room 3

Session Chair: Minchul Kang, Department of Mathematics, Texas A&M University-Commerce, Commerce, Texas 75428, USA

ID 147 Studying the influence of Design for Assembly Method on Redesigning Desktop Punch
Omar Al-Shebeeb, Department of Industrial and Management Systems Engineering, West Virginia University, Morgantown, WV, USA and College of Engineering, University of Diyala, Baqubah, Diyala, Iraq

ID 214 Equipping Graduates for the Future: The Need for Higher Institutions to Collaborate
John Aliu, Department of Civil Engineering, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
Clinton Aigbavboa, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built, Enviroment, University of Johannesburg, South Africa

ID 389 Development of a Simulation Game for the Craft Production Paradigm
John Wingerter and Milinda McCorkle, Erie High School, Erie, PA, USA
Farzad Jalali, Andrew DeVarney and Faisal Aqlan, Industrial Engineering Department, Penn State Behrend, Erie, PA, USA

ID 327 Work Experience for Construction Graduates: An Industry Perspective
John Aliu, Department of Civil Engineering, Faculty of Engineering and the Built Enviroment, University of Johannesburg, South Africa
Clinton Aigbavboa, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Enviroment, University of Johannesburg, South Africa

ID 534 Broad Learning System Based Classification by Incremental Learning Approach
Keenan Leatham and Nian Zhang, Department of Electrical and Computer Engineering, University of the District of Columbia, Washington DC 20008, USA

ID 053 Straightforward Derivation of Fluorescence Correlation Spectroscopy Equation of a Diffusion Process for Undergraduates
Minchul Kang, Department of Mathematics, Texas A&M University-Commerce, Commerce, Texas 75428, USA

8:00 – 9:30, SATURDAY Transportation and Traffic Room 4

Session Chair: Galal M. Abdella, Department of Mechanical and Industrial Engineering, Qatar University, 2713, Al Hala Street, Doha, Qatar

ID 100 Priority District Road Handling Model with Power Curves Approach Method
La Ode Muh. Magribi, Department of Civil Engineering, Faculty of Engineering, University of Halu Oleo, Indonesia
Edward Ngii, Department of Civil Engineering, Faculty of Engineering, University of Halu Oleo, Indonesia
ABD. Rahman, Student of Faculty of Engineering, Department of Civil Engineering, University of Haluoleo, Kendari, Indonesia
Syukriyanto, Employee of Transportation Department of Southeast Sulawesi Province, Kendari, Indonesia
La Ode Muhamad Nurrakhmad Arsyad, Department of Civil Engineering, Faculty of Engineering, University of Halu Oleo, Indonesia

ID 101 Development of Passenger Preference Model in Selecting Sea Transportation Mode: Case on Kendari - Raha Route in Southeast Sulawesi Province
Usman Rianse, Lecturer of Postgraduate Program, Halu Oleo University, Kendari, Southeast Sulawesi, Indonesia
La Ode Muh. Magribi, Lecturer of Postgraduate Program, Halu Oleo University, Kendari, Southeast Sulawesi, Indonesia
Hado Hasina, Head of Transportation Office of Southeast Sulawesi Province,, Indonesia
Bayu P. Adiputra, Students of Post Graduate Program, Planning and Regional Development of Halu Oleo University, Indonesia
Adris A. Putra, Lecturer of Postgraduate Program, Halu Oleo University, Kendari, Southeast Sulawesi

ID 399 Ridge Penalization-based Generalized Linear Model (GzLM) for Predicting Risky-Driving Index
Khadija B. Abdur Rouf, Department of Civil and Architectural Engineering, Qatar University, 2713, Al Hala Street, Doha, Qatar
Galal M. Abdella, Department of Mechanical and Industrial Engineering, Qatar University, 2713, Al Hala Street, Doha, Qatar
Khalifa N. Al-Khalifa, Department of Mechanical and Industrial Engineering, Qatar Transportation and Traffic Safety Center (QTTSC), Qatar University, 2713, Al Hala Street, Doha, Qatar

8:00 – 9:30, SATURDAY Manufacturing Room 5

Session Chair: Itumeleng Sebeho, University of Johannesburg, South Africa

ID 085 Study the Effect of the Weather Strip on Side Door Closing Effort for Passenger Vehicle
Mukdam Kena and Dick Newton, Ford Motor Company, Dearborn, MI 48124, USA
Ahad Ali and Ahmed Aljabr, A. Leon Linton Department of Mechanical Engineering, Lawrence Technological University, Southfield, MI, USA

ID 098 Investigations of Corrosion Resistance and Mechanical Characterization of TIG Welded Aluminum Alloy 2219
Qasim Ali and Mudaser Ullah and Waqas Ahmad, Department of Mechanical Engineering, College of Engineering & Technology, University of Sargodha, Sargodha, Pakistan

ID 260 Effect of FSW on the Mechanical Properties and Microstructure of 6082-T6 AA
Stephen Akinlabi, Department of Mechanical and Industrial Engineering, University of Johannesburg, South Africa
Samuel Fatoba and Esther Akinlabi, Department of Mechanical Engineering Science, University of Johannesburg, South Africa

ID 390 Analysis of Soft Skills Requirements for Manufacturing Jobs
Nicholas Cocolin, Iroquois Junior-Senior High School, Erie, PA 16511, USA
Andrew DeVarney and Faisal Aqlan, Industrial Engineering Department, Penn State Behrend, Erie, PA 16563, USA

ID 439 Investigating How Electrical Energy Hikes Impact the Manufacturing Sector
Itumeleng Sebeho, University of Johannesburg, South Africa

8:00 – 9:30, SATURDAY Modeling and Simulation Room 6

Session Chair: Said Kafumbe, Department of Electronic Engineering Technology, Higher Colleges of Technology, Abu Dhabi, UAE

ID 008 Comparative Analysis of the Performance of Fundamentalist, Technical and Hybrid Strategies by a Set of Simulated Scenarios
William Dias, Department of Strategic Planning, Federal Institute of Education, Science and Technology of Tocantins- IFTO, Palmas - TO, Brazil
Guilherme Vaccaro, Business and Polytechnic Department, Universidade do Vale do Rio Sinos – UNISINOS, São Leopoldo - RS, Brazil

ID 023 RF Tuning Micro Cantilever Array Design, Modeling, and simulation
Said Kafumbe, Department of Electronic Engineering Technology, Higher Colleges of Technology, Abu Dhabi, UAE
Alun HARRIS and Jim BURDESS, School of Electrical, Electronics and Computer Engineering and School of Mechanical Systems Engineering, Newcastle University, UK

ID 048 Modelling of A36 Steel Plate Dynamic Response to Uniform Partially Distributed Moving Iron Load using Differential Transform Method
[1,2]Agarana Michael C and [1]Akinlabi Esther T
[1]Department of Mechanical Engineering Science, University of Johannesburg, South Africa
[2]Department of Mathematics, Covenant University, Nigeria

8:00 – 9:30, SATURDAY Optimization Room 7

Session Chair: Kiran B. Salunkhe, Government Polytechnic, Mumbai, Bandra, Mumbai, India

ID 211 Modeling and Optimization of an Autonomous Photovoltaic System Based on Advanced Nonlinear Control
Mansori Mohamed and Zazi Malika, Dept. of Electrical Eng., Higher Normal School of Technical Education, Mohammed V University, Rabat, Morocco

ID 313 A Modification to Multi Objective NSGA II Optimization Algorithm
Abdel Rahman Ali M. Ahmed, Master Student, Mechanical Design & Production Department, Faculty of Engineering, Cairo University, Egypt
Mohamed H. Gadallah, Professor, Mechanical Design & Production Department, Faculty of Engineering, Cairo University, Egypt
Hesham A. Hegazi, Associate Professor, Mechanical Design & Production Department, Faculty of Engineering, Cairo University, Egypt

ID 036 Waterfall vs. Agile, are you on the right path?
Laura Adkins, Sr. Consultant, Broadsword Solutions, Waterford, MI 48329, USA

ID 532 Challenges in Achieving Organization's Operations Excellence through Continuous Improvement
Ahmed Aljabr, A. Leon Linton Department of Mechanical Engineering, College of Engineering, Lawrence Technological University, MI, USA
Mukdam Kena, Ford Motor Company, Dearborn, MI 48124, USA
Daw Alwerfalli, A. Leon Linton Department of Mechanical Engineering, Lawrence Technological University, Southfield, MI, USA

ID 043 Design & Fabrication of Remote Controlled Seed Sowing Vehicle
Kiran B. Salunkhe, Department of Mechanical Engineering, Government Polytechnic, Mumbai, Bandra, Mumbai, India
Mohit Chaudhari, Tejas Jeurkar, Sanket Kadam, Dept. of Mechanical Engineering Datta Meghe College of Engineering, Airoli, Navi Mumbai, India

Saturday 8:00 am – 9:30 am and 11:00 am – 1:00 pm

High School and Middle School STEM Posters Competition

Chair: Professor Don Reimer, Lawrence Technological University, MI, USA

ID 037 An Alerting Device to Prevent Death Risk in Dental Treatment
Kanticha Hothai and Thanadon Pitakwarin, Princess Chulabhorn's College Chonburi, Thailand

ID 125 Apply Statistics on Playing Strategic Video Games
Mason Chen, Stanford Online High School, California, United States

ID 144 Deceptively Sweet: Finding Hidden Sugars (Sucrose and Glucose)
Akshara Karthik and Priya Shah, Orchard Lake Middle School, West Bloomfield, MI, USA

ID 184 Electromagnetic Train
Rohan Pavuluri, Schroeder Elementary School, Troy, MI, United States

ID 423 Preparation and Evaluation of Carbon Synthesized by Chemical Activation of Mango Seeds
Alicia Chen and Emily Chen, Dublin High School, Dublin, CA 94568, USA

ID 498 HS STEM Poster
Talhah Rahman Huda, Thomas A. Edison High School, Alexandria, Virginia

ID 499 HS STEM Poster
Raffu Khondaker, Thomas Jefferson High School for Science and Technology, Alexandria, VA

ID 500 HS STEM Poster
Ramisa Resha, Robert Lee High School, Springfield, VA

ID 501 MS STEM Poster
Muhtasim Hossain, 7th grade, Irving Middle School, Springfield, VA

ID 514 HS STEM Poster
Noor Ruman, Oakton High School, Virginia, VA

ID 518 MS STEM Poster
Arham Ahammad, 8th Grade, Glasgow Middle School, Falls Church, VA

ID 519 HS STEM Poster
Anika Ahammad, 10th grade, Justice High School, Falls Church, VA

ID 522 HS STEM Poster
Mahir Mannan, 10th Grade, Robert Lee High School, VA

ID 523 MS STEM Poster
Afifa Mannan, 6th grade, Washington International Academy, VA

ID 524 MS STEM Poster
Nabila Ava, 6th Grade, Washington international Academy, VA

9:40 – 11:00 am – Saturday Morning Keynote I & II

9:40 – 10:20 am - **Saturday Morning Keynote I**

Veronica L. Nelson
Executive Director
Advancing Minorities' Interest in Engineering (AMIE)
Washington D.C.

10:20 – 11:00 am - **Saturday Morning Keynote II**

Dr. Rupy Sawhney
Professor and Heath Fellow in Business & Engineering
Department of Industrial and Systems Engineering
Executive Director of CASRE (Center for Advanced System, Research and Education)
University of Knoxville, Knoxville, Tennessee, USA

11:00 – 11:30 – Networking Break

Session – Saturday (September 29): 11:30 am – 1:00 pm

11:30 – 1:00, SATURDAY **Global Engineering Education VIII** **Room 1**

Session Chair: Tonya Smith-Jackson, North Carolina Agricultural and Technical State University, Greensboro, NC 27411, USA

11:30 am – 12:00 pm (Saturday)

Tonya Smith-Jackson
Department of Industrial and Systems Engineering
North Carolina Agricultural and Technical State University
Greensboro, NC 27411, USA
Current Position: Program Director, Cyber-Human Systems Division,
Cultivating Cultures of Ethics in STEM
Broadening Participation in Computing Work Group
National Science Foundation, Alexandria, VA 22314

Fay Cobb Payton
Information Systems/Technology
North Carolina State University
Raleigh, NC 27695, USA
Current Position: Program Director, Computer & Network Systems Division,
Excellence in Research
INCLUDES Implementation Team
Broadening Participation in Computing Work Group
National Science Foundation, Alexandria, VA 22314

ID 287 Inclusive Research Advancement: Why Collaboration with HBCUs Matters
Tonya Smith-Jackson, Dept. of Industrial and Systems Engineering, North Carolina Agricultural and Technical State University, Greensboro, NC, USA
Fay Cobb Payton, Information Systems/Technology, North Carolina State University, Raleigh, NC, USA

12:00 pm – 12:30 pm (Saturday)

Scott McCurdy
Cochranton Junior-Senior High School
Cochranton, PA 16314, USA

John Namey
Jefferson Area Junior-Senior High School
Jefferson, OH 44047, USA

Faisal Aqlan
Industrial Engineering Department
Penn State Behrend
Erie, PA 16563, USA

ID 398 A Framework for Teaching Manufacturing Paradigms Using Simulation
Scott McCurdy, Cochranton Junior-Senior High School, Cochranton, PA 16314, USA
John Namey, Jefferson Area Junior-Senior High School, Jefferson, OH 44047, USA
Faisal Aqlan, Industrial Engineering Department, Penn State Behrend, Erie, PA 16563, USA

12:30 pm – 1:00 pm (Saturday)

Hemendra Nath Roy
Supply Chain Superintendent, Manufacturing and Apparel Sourcing
Gildan
Baridhara Diplomatic Zone, Gulshan 2, Dhaka -1212
Bangladesh

11:30 – 1:00, SATURDAY Inventory Management Room 2

Session Chair: Sizwe Mkwanazi, University of Johannesburg, Kingsway & University Road, Auckland Park, 2006, South Africa

ID 401 A Multi-Product Multi-Supplier Combined Inventory and Suppliers' Selection Model
Mohamed Grida and Boshra Taha, Industrial Engineering Department, Zagazig University, Zagazig, Egypt
Abdel Nasser Zaied, Faculty of Computer and Informatics, Zagazig University, Zagazig, Egypt

ID 407 A Theoretical Assessment Framework of Inventory Management System in Wind Tunnel Facilities
Sarah Dikgale, Ndala Yves Mulongo and Clinton Aigbavboa, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006, South Africa

ID 416 A review of Inventory Management System in the South African Aerospace Industry
Sarah Dikgale, Ndala Yves Mulongo and Clinton Aigbavboa, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006, South Africa

ID 136 Challenges in Managing Production Capacity by Manufacturing Cooperatives during Growth Stage
Sizwe Mkwanazi and Charles Mbohwa, Faculty of Engineering and Built Environment, University of Johannesburg, Kingsway & University Road, Auckland Park, 2006, South Africa

11:30 – 1:00, SATURDAY Energy Room 3

Session Chair: Abderrahmane MELLAK, Université M'Hamed Bouguara, Boumerdès, Algérie

ID 001 Integrative Municipal Sewage Sludge Management through Biogas Production: A Case Study of Municipal Plants in Harare, Zimbabwe
M. M. Manyuchi, BioEnergy and Environmental Technology Center, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Manicaland State University of Applied Sciences, Zimbabwe
T. Patsanza, Chemical and Process Systems Engineering Department, Harare Institute of Technology, Zimbabwe
E. Muzenda, BioEnergy and Environmental Technology Center, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, P Bag 16, Palapye, Botswana

ID 054 Reclamation of Pyrolysis Liquid from Medical Plastic Waste by Using Batch Reactor-Bangladesh Perspective
Md. Shameem Hossain, Department of Energy Science and Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Uday Som, Department of Chemical Engineering, Jessore University of Science & Technology, Jessore-7408, Bangladesh

ID 075 Solid Fuel Production from Landfill Waste for Promoting Sustainable Development in Africa
M. M. Manyuchi, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Faculty of Engineering, Manicaland State University of Applied Sciences, Zimbabwe
C. Mbohwa, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

E. Muzenda, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, P. Bag 16, Palapye, Botswana

ID 132 Analysis of Cleaning Problems in Highly Dedicated and Horizontal Wells

Abderrahmane MELLAK, Hydrocarbons and Chemicals Faculty – Director of Laboratory of Hydrocarbon Engineering (LGPH), Université M'Hamed Bouguara, Boumerdès, Algérie
Khaled Benyounes, Hydrocarbons and Chemicals Faculty - Laboratory of Hydrocarbon Engineering (LGPH), Université M'Hamed Bouguara, Boumerdès, Algérie.
Kaddour El Heit, University Mouloud Mammeri, Tizi Ouzou, Algeria

ID 137 Development of Electrical Power Generation System Through the Use of Speed Breaker

[1]AMAIZE Peter Aigboviosa, [1]Uzairue Stanley Idiake, [1]Nsikan Nkordeh, [2]AIROBOMAN Abel Ehimen, and [1]KASUWA Victory
[1]Department of Electrical and Information Engineering, Covenant University, Nigeria
[2]Department of Electrical/Electronic Engineering, Nigerian Defence Academy, Kaduna, Nigeria

11:30 – 1:00, SATURDAY Innovation and Industry Practices Room 4

Session Chair: Ojas Rahate, Department of Mechanical Engineering, K.I.T College of Engineering, Kolhapur, India

ID 057 Factors Affecting the Growth of SMMES in the Construction Industry in Lusaka, Zambia: A Preliminary Study

Clinton Aigbavboa, Douglas Aghimien, Ayodeji Oke and Khanyisa Mabasa, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 402 Analysis of the Status-Quo of Industrial 4.0 in the SMMEs: A Critical Review

Ntwanano Epraim Mue, Ndala Yves Mulongo and Pule Aaron Kholopane, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 419 A Theoretical Analysis of Industrial 4.0 in the South African SMMEs

Ntwanano Ephraim Mueti, Ndala Yves Mulongo and Pule Aaron Kholopane, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 003 Bio Treatment of Brewery Wastewater Treatment using Hycura

M. M. Manyuchi, BioEnergy and Environmental Technology Center, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Manicaland State University of Applied Sciences, Zimbabwe
C. Mbohwa, BioEnergy and Environmental Technology Center, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
E. Muzenda, BioEnergy and Environmental Technology Center, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, P Bag 16, Palapye, Botswana

ID 002 Value Addition of Brewers Spent Grains to Bio Coal Using Hydrothermal Carbonization

M. M. Manyuchi, BioEnergy and Environmental Technology Center, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Manicaland State University of Applied Sciences, Zimbabwe
M. Mugoronji, Chemical and Process Systems Engineering Department, Harare Institute of Technology, Zimbabwe
C. Mbohwa, BioEnergy and Environmental Technology Center, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
E. Muzenda, BioEnergy and Environmental Technology Center, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, Botswana

ID 007 Precision Agriculture

Ojas Rahate and Yash Khandekar, Department of Mechanical Engineering, K.I.T College of Engineering, Kolhapur, India

11:30 – 1:00, SATURDAY Environmental Engineering Room 5

Session Chair: Leandro L. Lorente Leyva, Universidad Técnica del Norte, Ibarra, Ecuador

ID 038 Valorization of Corn Sillage through Vermicomposting

M. M. Manyuchi, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Faculty of Engineering, Manicaland State University of Applied Sciences, Zimbabwe
C. Mbohwa, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
E. Muzenda, BioEnergy and Environmental Technology Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, P Bag 16, Palapye, Botswana

ID 041 Nutrient Removal from Wastewater through Bio Augmentation

M. M. Manyuchi, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Faculty of Engineering, Manicaland State University of Applied Sciences, Zimbabwe

C. Mbohwa, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
E. Muzenda, BioEnergy and Environmental Technology Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, P Bag 16, Palapye, Botswana

ID 062 Potential to Produce Biomass Briquettes from Tea Waste

M. M. Manyuchi, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Faculty of Engineering, Manicaland State University of Applied Sciences, Zimbabwe
C. Mbohwa, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
E. Muzenda, BioEnergy and Environmental Technology Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, P Bag 16, Palapye, Botswana

ID 081 Development of a Noise Insulating Cover for Selected Sewing Machine Used in Garments Section

HamamahSadiqa, M. Al-Amin and Md. Showkat Osman, Department of Civil Engineering, Dhaka University of Engineering & Technology, Gazipur, Gazipur-1707, Bangladesh

ID 205 Lab-scale Anaerobic Biodigester for Renew Energy from Municipal Solid Waste

Leandro L. Lorente Leyva, Yakcleem Montero Santos, Israel D. Herrera Granda, Carlos A. Machado Orges, Santiago M. Vacas Palacios and Robert M. Valencia Chapi, Facultad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte, Ibarra, Ecuador

ID 252 Industrial Area into Eco –Industrial Park Case Study of Harare

Ignatio Madanhire and Taurai Mupaso, University of Zimbabwe, Dept. of Mechanical Engineering, P.O Box MP167, Mt Pleasant, Harare, Zimbabwe
Charles Mbohwa, University of Johannesburg, Department of Quality Management and Operations Management, Auckland Park 2006, South Africa

11:30 – 1:00, SATURDAY Modeling and Simulation Room 6

Session Chair: Pradeep Suryanarayana Barimar Rao, Transportation Engineering Consultant, Tallahassee FL 32311, USA

ID 077 Digital Predistortion Modeling in DSL Systems Using Volterra Series and Prediction Error Method

Emad Abd-Elrady, Abu Dhabi Women's College, Higher Colleges of Technology, P.O. Box 41012 Abu Dhabi, UAE

ID 078 Mathematical Modelling and Analysis of Human Arm as a Triple Pendulum System using Euler-Lagragian Model

1,2 Michael C. Agarana and 1Akinlabi T. Esther
1 Department of Mechanical Engineering Science, University of Johannesburg, South Africa
2 Department of Mathematics, Covenant University, Nigeria

ID 079 Implementing i‡k Multipliers Using Virtex-4 FPGAs

Abdurrahman M. Ali, Abdul Rauf and Anjum Ali, Department of Electrical Engineering, National University of Computer and Emerging Sciences, Lahore, Pakistan

ID 275 Characterization of a Negative Resistance Amplifier Circuit

Olasunkanmi Ojewande, Charles Ndujiuba, Adebiyi A. Adelakun, Segun I. Popoola, Stanley Uzairue, Simon Adedoyin and Aderemi A. Atayero, Department of Electrical and Information Engineering, Covenant University, Ota, Nigeria

ID 373 Design And Simulation of Upfc and Ipfc for Voltage Stability under a Single Line Contingency: A Comparative Study

Okampo John Ewaoche and Nnamdi Nwulu, Department of Electrical & Electronic Engineering Science, Faculty of Engineering and Built Environment, University of Johannesburg, South Africa

ID 415 Numerical Investigation of Wave Interaction with Pile Breakwater

Pradeep Suryanarayana Barimar Rao, Transportation Engineering Consultant, 2500 Merchants Row Blvd, Apt 164, Tallahassee FL 32311, USA
Sheryl Elizabeth Mathew, Praveen Suvarna, Arunakumar Hunasanahally Sathyanarayana, and Pruthviraj Umesh, Department of Applied Mechanics and Hydraulics, NITK Surathkal, Mangaluru, Karnataka, India

11:30 – 1:00, SATURDAY Project Management Room 7

Session Chair: Md. Habibor Rahman, Department of Systems and Industrial Engineering, University of Arizona, Tucson, USA

ID 044 A Heuristic Approach for the General Flowshop Scheduling Problem to Minimize the Makespan

Mohsen Ziaeea, University of Bojnord, Bojnord, Iran

ID 045 A New Mixed Integer Linear Programming Model for Flexible Job Shop Scheduling Problem

Mohsen Ziaee, Department of Industrial Engineering, University of Bojnord, 94531-55111 Bojnord, Iran

ID 174 A Fuzzy Approach for Minimization of Defects in a Production Line by Controlling Input Parameters: A Case Study in Bangladesh

Jannatul Bushra, Department of Engineering, BGMEA University of Fashion and Technology, Dhaka-1230, Bangladesh and Department of Systems and Industrial Engineering, University of Arizona, Tucson, USA
Md. Habibor Rahman, Department of Systems and Industrial Engineering, University of Arizona, Tucson, USA

ID 488 Influence of Organizational Culture on Brand Switching: A Study in B-2-B Services
Anjali Sharma and R.R.K. Sharma, Dept. of Industrial & Management Eng., Indian Institute of Technology-Kanpur, U.P. -208016, India

1:00 – 2:30 pm – Saturday Networking Lunch Buffet – Student Center Ballroom

Saturday Lunch Keynote: 1:40 – 2:00 pm

Dr. Abby Ilumoka Nwabizour

Program Director, Engineering Education
National Science Foundation

Session – Saturday (September 29) – 2:30 – 4:00 pm

2:30 – 4:00, SATURDAY Global Engineering Education IX Room 1

Session Chair: Dr. Shahram Taj, Department of Data Science and Business Analytics, Florida Polytechnic University, Lakeland, FL 33805, USA

2:30 pm – 3:00 pm (Saturday)

Dr. Mustafa Ilhan Akbas
Department of Computer Science
Florida Polytechnic University
Lakeland, FL 33805, USA

Dr. Shahram Taj
Department of Data Science and Business Analytics
Florida Polytechnic University
Lakeland, FL 33805, USA

ID 314 Intelligent Mobility Concentration for Undergraduate Students in Data Science and Business Analytics
Mustafa Ilhan Akbas and Shahram Taj, Florida Polytechnic Univesrity, United States

3:00 pm – 3:30 pm (Saturday)

Mr. Abdul Mannan
Software Engineer at Social Security Administration
Adjunct Professor, Department of Computer Science and Information Technology (CSIT)
The University of the District of Columbia
4200 Connecticut Ave NW
Washington, DC, USA

Progress and Obstacles in Software Development Process

3:30 pm – 4:00 pm (Saturday)

Mohammad A Rahman, Ph.D.
Manufacturing and Construction Management
Central Connecticut State University
New Britain, CT, USA

2:30 – 4:00, SATURDAY Energy Room 2

Session Chair:

ID 145 Rice Husk Briquette with Shredded Paper Additives: a Potential Energy Source at par with the Progress of Bangladesh
Muhammad Mahbubul Alam, Professor, Mechanical Engineering Department, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
Manik Miah, Assistant Engineer, Titas Gas Transmission and Distribution Company Limited, Dhaka, Bangladesh

ID 171 Comparative Analysis of Switch Mode Power Supplies Using Proportional plus Integral, Sliding Mode and Artificial Neural Network Controllers
Mukhtiar Ahmed Mahar and Abdul Sattar Larik, Department of Electrical Engineering, Mehran University of Engineering & Technology, Jamshoro, Sindh, Pakistan

ID 176 A Comparative Analysis of Supply Side Power Factor in Phase Angle Controlled AC to AC Voltage Converters
Abdul Sattar Larik and Mukhtiar Ahmed Mahar, Department of Electrical Engineering, Mehran University of Engineering & Technology, Jamshoro, Sindh, Pakistan

ID 178 Waste to Energy Plants for Energy and Municipal Solid Waste Management in Indian Perspective
Rajat Agrawal and Ankur Goyal, Department of Management Studies, Indian Institute of Technology Roorkee, India

ID 180 Comparative Analysis of Anisotropic Sky Models and Experimental Data in Estimating Solar Radiation on Tilted Surface in Sub Saharan Africa Climate
Oguejiofor Miracle Mbah, Paul Amaechi Ozor and Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built, Environment, University of Johannesburg, South Africa
Chigbo A. Mgbemene and Samuel Ogbonna Enibe, Dept. of Mechanical Engineering, Faculty of Engineering, University of Nigeria, Nsukka, Nigeria

ID 207 Design and Development of a Low Cost Domestic Heating System
Anjum Ali, Department of Electrical Engineering, FAST- National University of Computer and Emerging Sciences, Lahore, 54700, Pakistan

ID 239 Design of a Wind Mobile Phone Charger
M.S Chagwe, Nnamdi Nwulu and Kabeya Musasa, Dept. of Electrical and Electronic Engineering Science, University of Johannesburg, Auckland Park Kingsway Campus, Johannesburg, South Africa

2:30 – 4:00, SATURDAY Human Factors and Ergonomics Room 3

Session Chair: Said Kafumbe, Abu Dhabi Women's College, Higher Colleges of Technology, Abu Dhabi, UAE

ID 004 Assessment into Injuries Related With Sand Shoveling Work
Adeyemi H. Oluwole, Department of Mechanical Engineering, Olabisi Onabanjo University, Nigeria

ID 073 Management OF Health and Safety Risk Associated with Excavation Cave-In
Wellington Didi Thwala, 1Sustainable Human Settlement and Construction Research Centre, Department of Construction Management & Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg, 2028, South Africa
Zakari Mustapha, Department of Building Technology, Cape Coast Technical University, Cape Coast, Ghana
Clinton Aigbavboa, Sustainable Human Settlement and Construction Research Centre, Department of Construction Management & Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg, 2028, South Africa

ID 126 Driver Awareness System Using RFID Technology: A collaboration in Senior Design Projects
Emad Abd-Elrady, Abu Dhabi Women's College, Higher Colleges of Technology, P.O. Box 41012 Abu Dhabi, UAE.
Osama Abuelkheir, Atlas Telecom AD, Abu Dhabi, UAE
Said Kafumbe, Abu Dhabi Women's College, Higher Colleges of Technology, P.O. Box 41012 Abu Dhabi, UAE

ID 282 Ergonomic Assessment of Snow Shovels Using Digital Human Modeling
Carly Wolkiewicz, Katherine Collins and Faisal Aqlan, Industrial Engineering Department, Penn State Erie, The Behrend College, Erie, PA, USA
Osama T. Al Meanazel, The Hashemite University, Zarqa 13115, Jordan

ID 450 Challenges of Reconstruction and Development Program (RDP) Houses in South Africa
Mashwama Nokulunga, Thwala Didi and Aigbavboa Clinton, Department of Construction Management and Quantity Surveying, University of Johannesburg/Johannesburg, South Africa and Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg/ Johannesburg, South Africa

2:30 – 4:00, SATURDAY Construction Management Room 4

Session Chair: Mohamed Alblooshia, University of Sharjah, Sharjah, United Arab Emirates

ID 276 Assessing Employee Motivation in a South African Construction Company
Lerato Ngwenya and Clinton Aigbavboa and Wellington Thwala, Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa

ID 289 Challenges of Night Time Road Construction in the City of Johannesburg, South Africa
Khotso Dithebe, Clinton.O Aigbavboa, Ayodeji.E Oke, Wellington.D Thwala and Chuma Mnyande, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 374 Assessment of Factors Affecting Trade Union in Nigerian Construction Industry
Benjamen Adeyemi and Clinton Aigbavboa, Dept. Construction Management and Quantity Surveying, University of Johannesburg, South Africa

ID 417 Analyzing the future of Enterprise Resources Planning Techniques in South African Construction Sector
Abigail Lekhuleni, Ndala Yves Mulongo and Pule Aaron Kholopane, Faculty of Engineering and the Built Environment, University of Johannesburg, PO BOX, 524, Auckland Park, 2006, South Africa

ID 420 Factors Causing Conflicts in South African Construction Industry- A Study Review
Benjamen Adeyemi and Clinton Aigbavboa, Dept. of Construction Management and Quantity Surveying, University of Johannesburg, South Africa

ID 436 A Review of the Impact of Firms' Corporate Social Responsibility (CSR) on Indigenous Construction Firms' Competitiveness in the Ghanaian Construction Industry
Mohamed Alblooshi[a] and Mohammad Shamsuzzaman[ab], [b]Sustainable Engineering Asset Management (SEAM) Research Group, [a]Department of Industrial Engineering and Engineering Management, University of Sharjah, Sharjah 27272, United Arab Emirates

ID 451 Cost of Poor Quality in Construction Projects in Swaziland
Mashwama Nokulunga, Thwala Didi and Aigbavboa Clinton, Department of Construction Management and Quantity Surveying, University of Johannesburg/Johannesburg, South Africa and Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg/ Johannesburg, South Africa

2:30 – 4:00, SATURDAY Sustainability and Green Systems Room 5

Session Chair: Peter Onu, University of Johannesburg, Johannesburg, South Africa

ID 039 Feasibility of using Sewage Sludge Bio Char in Treating Municipal Sewage
M. M. Manyuchi, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Faculty of Engineering, Manicaland State University of Applied Sciences, Zimbabwe
C. Mbohwa, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
E. Muzenda, BioEnergy and Environmental Technology Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, P Bag 16, Palapye, Botswana

ID 042 A theoretical Appraisal of Ecologically Sustainable Practices amongst Engineering and Built Environment Professionals
Mpho Ndou and Clinton Aigbavboa, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

ID 060 Integrated Biomass Utilization for Energy Efficiency and Nutrient Recycling
M. M. Manyuchi, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical and Processing Engineering, Faculty of Engineering, Manicaland State University of Applied Sciences, Zimbabwe
W. Stinner, Biochemical Conversion Department, German Biomass Research Institute, Leipzig, Germany
C. Mbohwa, BioEnergy and Environmental Technology Centre, Department of Operations and Quality Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
E. Muzenda, BioEnergy and Environmental Technology Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa and Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, P Bag 16, Palapye, Botswana

ID 068 A Study of Listed Banking Companies: Sustainability Reporting in Bangladesh
Haragobinda Baidya, MA, MeD, Executive Director, Minority Self Empowerment Foundation, 22 Dilkusha C/A Dhaka-1000 Bangladesh

ID 218 Future Energy Systems and Sustainable Emission Control: Africa in Perspective
Peter Onu and Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, P. O. Box 524, Johannesburg, South Africa

ID 224 Ecotourism an Application of the Cultural Environmental Service to Achieve the Sustainability of Places with High Risk
William E. Mosquera-Laverde, Faculty of Administrative and Economic Sciences, Universidad Cooperativa de Colombia, Bogotá D.C., Colombia
Oscar A. Vásquez-Bernal, School of Basic Sciences; Tech and Eng., Universidad Nacional Abierta y a Distancia – UNAD, Bogotá D.C., Colombia
Claudia P. Gomez-E., Faculty of Administrative and Economic Sciences, Universidad Cooperativa de Colombia, Bogotá D.C., Colombia

2:30 – 4:00, SATURDAY Case Studies Room 6

Session Chair: Evelin Turcios, University of the District of Columbia, Washington DC, USA

ID 087 Investigation of Mechanical Properties of Reinforcement Steel Bars: Case Study on Construction Sites in and Around Amhara Region, Ethiopia
Tariku Achamyeleh, Department of Mechanical Engineering, School of Applied Sciences, Near East University, Lefkosa, Cyprus

ID 119 Comparative Analysis of Signal Strength in South-South Nigeria
[1]Uzairue Stanley, [2]Victor Matthews Olu, [3]Nsikan Nkordeh, [4]Amaize Peter, [5]Segun Popoola, [6]Anyasi Francis, [7]Idim F.I. and [8]Atayero Aderemi
[1,2,3,4,5,8]Electrical and Information Engineering, Covenant University, Nigeria
[6]Electrical and Electronics Engineering, Ambrose Alli University, Ekpoma, Nigeria
[7]Department of Electrical and Electronic Engineering, Petroleum Training Institute, Nigeria

ID 201 Cybercrime as a Detrimental Act to the Development of African Cinema. A Case Study of Nollywood
Fortunate Tatenda Mauyakufa and Anup Pradhan, Department of Quality and Operations Management, University of Johannesburg, South Africa

ID 203 Censorship as a Regressive Developmental Instrument for Radio and Television Broadcasting Service in Zimbabwe
Fortunate Tatenda Mauyakufa and Anup Pradhan, Department of Quality and Operations Management, University of Johannesburg, South Africa

ID 210 An Analysis of Cargo Release Services with Process Mining: A Case Study in a Logistics Company
Sagit Kedem-Yemini, Naor S. Mamon and Gal Mashiah, Logistics Department, Sapir Academic College, Sderot, Israel

ID 515 Evaluation of a Business Organization: A Case Study of the Front-Line
Evelin Turcios and Sergey Ivanov, Dept. of Management, School of Business and Public Administration, Univ. of the District of Columbia, USA

2:30 – 4:00, SATURDAY Project Management Room 7

Session Chair: Cristina Isabel Aguilar, Universidad del Valle, Cali, Colombia

ID 273 Scheduling Complex Products with Assembly Operations in Hybrid Flow Shop Environment
Vahid Kayvanfar, Department of Industrial Engineering, Amirkabir University of Technology, 424 Hafez Ave., 15875-4413 Tehran, Iran
GH.M. Komaki, Department of Marketing and Business Analytics, College of Business, Texas A&M University-Commerce, Commerce, Texas, USA
Shaya Sheikh, Department of Management Science Studies, School of Management, New York Institute of Technology, Broadway, NY 10023, USA
Ehsan Teymourian, Department of Management Science and Information Systems, Rutgers, the State university of New Jersey, USA

ID 150 Identification and Evaluation of Critical Success Factors for Construction Projects
Antonio Carlos Pacagnella Junior, School of Applied Sciences – FCA, State University of Campinas – UNICAMP, Limeira, Brazil
Marcelo Sales Paschoal, Methodist University of Piracicaba, Santa Bárbara D'Oeste - Brazil
Ornella Pacífico, Universidade Estácio de Sá, Ribeirão Preto – Brazil

ID 229 Probabilistic Project Management Based on Earned Value Management
Lady Vanessa Rangel, Cristina Isabel Aguilar, Leonardo Rivera and Alvaro Cuadros, Industrial Engineering Dept., Univ. del Valle, Cali, Colombia

ID 288 Descriptive Analysis on Key Issues Preventing the Acceleration of Adequate Delivery of Low-Income Housing
Khotso Dithebe, Clinton.O Aigbavboa, Ayodeji.E Oke, Wellington.D Thwala and Tinyiko Mathebula, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 326 Housing Delivery: Making Sense of the Demand for State-Subsidised Housing in South Africa
Prof W.D Thwala, Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa
Prof C.O Aigbavboa, University of Johannesburg, Doornfontein Campus, Johannesburg, 2028, South Africa
N.T. Ramovha, Department of Construction Management and Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg, 2028, South Africa

4:00 – 4:30 pm – Networking Break – Ballroom

Session – Saturday (September 29) – 4:30 – 6:00 pm

4:30 – 6:00, SATURDAY Global Engineering Education X Room 1

Session Chair: Oscar Alejandro Vásquez-Bernal, Universidad Nacional Abierta y a Distancia UNAD, Bogotá D.C., Colombia

4:30 pm – 5:00 pm, Saturday

Oscar Alejandro Vásquez-Bernal
School of Basic Sciences, Technology and Engineering
Universidad Nacional Abierta y a Distancia UNAD
Bogotá D.C., Colombia

Félix Antonio Cortés-Aldana
Faculty of Engineering
Universidad Nacional de Colombia
Bogotá D.C., Colombia

ID 212 Professional Certification Engineering: A Goal-Based and Multi-Criteria Decision Analysis Approach
Oscar Alejandro Vásquez-Bernal, School of Basic Sciences, Technology and Engineering, Universidad Nacional Abierta y a Distancia UNAD Bogotá D.C., Colombia
Félix Antonio Cortés-Aldana, Faculty of Engineering, Universidad Nacional de Colombia, Bogotá D.C., Colombia

5:00 pm – 5:30 pm, Saturday

Dr. Faisal Aqlan
Assistant Professor of Industrial Engineering
Master of Manufacturing Management (MMM)
Penn State Behrend
Erie, Pennsylvania, USA

5:30 pm – 6:00 pm, Saturday

Jefia Abigail Oghenevwegba
Department of Electrical and Information Engineering
Covenant University
Ogun State, Nigeria

Achieving Quality Engineering Education in Nigeria

4:30 – 6:00, SATURDAY Energy Room 2

Session Chair: Emmanuel Oikelomen Ayorinde, University of Johannesburg, South Africa

ID 240 Design and Implementation of a Small Scale Linear Switched Reluctance Motor
JY Lokamba, Nnamdi Nwulu and Kabeya Musasa, Dept. of Electrical and Electronic Engineering Science, University of Johannesburg, Auckland Park Kingsway Campus, Johannesburg, South Africa

ID 241 Automatic Solar Street Light Design
Judas Khoza, Nnamdi Nwulu and Kabeya Musasa, Dept. of Electrical and Electronic Engineering Science, University of Johannesburg, Auckland Park Kingsway Campus, Johannesburg, South Africa

ID 249 Adaptive Neuro-fuzzy Inference System (ANFIS) for a multi-campus institution energy consumption forecast in South Africa
Paul Adedeji, Nkosinathi Madushele and Stephen Akinlabi, Dept. of Mechanical and Industrial Engineering, University of Johannesburg, South Africa

ID 259 Exergy Analysis of Refrigeration System using R600a with TiO2 Nano lubricant
Taiwo O. Babarinde, Department of Mechanical Engineering Science, University of Johannesburg, South Africa & Department of Mechanical Engineering, Covenant University Ota, Ogun State, Nigeria
Stephen A. Akinlabi, Department of Mechanical & Industrial Engineering Technology, University of Johannesburg, South Africa
Daniel M. Madyira, Department of Mechanical Engineering Science, University of Johannesburg, South Africa

ID 270 Arduino Based Solar Tracking System for Energy Improvement of PV Solar Panel
Amaize Peter Aigboviosa, Adoghe Anthony, Awosope Claudius, Stanley Uzairue, Sanni Timilehin and Victor Imafidon, Department of Electrical and Information Engineering, Covenant University, Nigeria

ID 274 An Assessment of The Challenges Facing Power Infrastructure Financing In Developing Countries
Emmanuel Oikelomen Ayorinde and Clinton Ohis Aigbavboa, Department of Civil Engineering Science, University of Johannesburg, South Africa
Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa

4:30 – 6:00, SATURDAY Case Studies Room 3

Session Chair: Paul Liu, Samsung Strategy and Innovation Center, Samsung Electronics, San Jose, CA, USA

ID 230 Risk Management in the Public Sector: Case study in a Brazilian Education Institution
Carine Nunes, Strategic Planning Coordination, IFTO, Tocantins, Brazil
Úrsula Maruyama, Strategic Management Officer/Business Administration School, Cefet/RJ, Rio de Janeiro, Brazil
William de Sousa Dias, Strategic Planning Coordination, IFTO, Tocantins, Brazil

ID 237 Supply Model Design for a Dairy Company: A Case Study
Carlos A. Machado Orges, Diego J. Haro Morales, Leandro L. Lorente Leyva, Yakcleem Montero Santos and Israel D. Herrera Granda, Facultad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte, Ibarra, Ecuador
Ivet Challenger Pérez, Facultad de Ingeniería Informática y Matemática, Universidad de Holguín, Cuba

ID 263 Sustainable Oil Exploitation versus Renewable Energy Initiatives: A Review of the Case of Uganda
Peter Onu and Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, P. O. Box 524, Johannesburg, South Africa

ID 414 An Exploratory Analysis of Rainfall: a Case Study on Western Ghats of India
Pradeep Suryanarayana Barimar Rao, Transportation Engineering Consultant, 2500 Merchants Row Blvd, Apt 164, Tallahassee FL, USA
Swathi Shetty, Pruthviraj Umesh and Amba Shetty, Department of Applied Mechanics and Hydraulics, NITK Surathkal, Mangaluru, Karnataka, India

ID 162 Real-Time HealthCare Monitoring System Using Locally Made Device
Oluwafemi Ifetayo and Oluwafemi Jesusetemi, Postgraduate School of Engineering Management, University of Johannesburg, South Africa
Aigbavboa Clinton, Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa

ID 181 Safety Assessment of Camera Detection and Classification Systems Used in Autonomous Driving
Paul Liu, Samsung Strategy and Innovation Center, Samsung Electronics, San Jose, CA 95134, USA

4:30 – 6:00, SATURDAY Construction Management Room 4

Session Chair: Md. Lutfor Rahman, Director, Hydraulic Research Directorate, River Research Institute, Faridpur, Bangladesh

ID 058 Performance of Selected Funding Schemes Used in Delivering Educational Buildings in Nigeria
Douglas Aghimien and Clinton Aigbavboa, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 074 Small-Medium Sized Contractors' Growth in Cape Coast Metropolis
Wellington Didi Thwala, Sustainable Human Settlement and Construction Research Centre, Department of Construction, Management & Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg, 2028, South Africa
Zakari Mustapha, Department of Building Technology, Cape Coast Technical University, Cape Coast, Ghana
Clinton Aigbavboa, Sustainable Human Settlement and Construction Research Centre, Department of Construction, Management & Quantity Surveying, University of Johannesburg, Doornfontein Campus, Johannesburg, 2028, South Africa

ID 076 Role of Stakeholders in Enhancing Construction Waste Management in Ghana: A Review
Emmanuel Frempong Jnr, Postgraduate School of Engineering Management, Faculty of Engineering and Built Environment, University of Johannesburg, South Africa
Clinton Aigbavboa and Wellington Thwala, Department of Construction Management and Quantity Surveying, Faculty of Engineering and Built Environment, University of Johannesburg, South Africa

ID 083 Sedimentation by Bamboo Bandalling Structures near the River Bank
Md. Lutfor Rahman, Director, Hydraulic Research Directorate, River Research Institute, Faridpur-7800, Bangladesh
Prof. Md. Shawkat Osman, Department of Civil Engineering, Dhaka University of Engineering and Technology, Gazipur, Bangladesh

ID 161 Quality Assurance Measurement of Sandcrete Hollow Blocks Manufactured in Ado-Ekiti, Ekiti State, South Western Nigeria
Oluwafemi Ifetayo[1], Aigbavboa Clinton[2], and Jan-Harm Pretorius[3]
[1,3]Postgraduate School of Engineering Management, University of Johannesburg, South Africa
[2]Department of Construction Management and Quantity Surveying, University of Johannesburg, 2006, RSA
Akinwamide Joshua, Civil Engineering Department, Federal Polytechnic, P.M.B 5351 Ado -Ekiti, Ekiti State, Nigeria

ID 175 A Study of Engineering Properties of Cement Modified Termitarium Soil Found Within Ado- Ekiti Metropolis for Bricks Production
Oluwafemi Ifetayo[1], Aigbavboa Clinton[2], and Jan-Harm Pretorius[3]
[1,3]Postgraduate School of Engineering Management, University of Johannesburg, 2006, RSA
[2]Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa
Akinwamide Joshua, Civil Engineering Department, Federal Polytechnic, P.M.B 5351 Ado -Ekiti, Ekiti State, Nigeria

4:30 – 6:00, SATURDAY Systems Dynamics Room 5

Session Chair: Anup Pradhan, University of Johannesburg, Johannesburg, South Africa

ID 233 Selection of Project Duration Forecast Method Using Earned Value Metrics
Juan Pablo Ibarguen, Leonardo Rivera and Alvaro Cuadros, Industrial Engineering Department, Universidad del Valle, Cali, Colombia

ID 387 Using Analytics to Predict Project Management Success
Nichalin Summerfield, Juheng Zhang, Luvai Motiwalla, Tri Mai, and Kasey Mazza, Department of Operations and Information Systems, Manning School of Business, University of Massachusetts Lowell, Lowell, MA 01854, USA

ID 202 An Analysis on the Role of Computer Graphics and Animation in Zimbabwean Film Industry
Anup Pradhan, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 503 Three Pillars of Sustainability: An overview
Sindisiwe Chauke, Kehinde Sobiyi and Charles Mbohwa, Dept. of Quality and Operations Management, University of Johannesburg, South Africa

4:30 – 6:00, SATURDAY Financial Engineering Room 6

Session Chair: Leila Denmamode, University of Technology, Mauritius, La Tour Koenig, Mauritius

ID 182 Value at Risk When Covariance is Misspecified
You Chen and Ming Hsieh, Department of Electrical Engineering, University of Southern California, Los Angeles, CA 90089, USA
Yaoxiang Nie, Simon Business School, University of Rochester, Rochester, NY 14642, USA

ID 196 Do Prices Reflect the Performance of Government Controlled Closed-End Mutual Funds? A Panel Data Analysis from Bangladesh Perspective
Md. Shakil Ahmad, Department Head- Advisory Services, United Finance Limited, 22, Kazi Nazrul Islam Avenue, Dhaka-1000, Bangladesh
Mina Mahbub Hossain and Md. Rakibul Hasan, University of Dhaka, Dhaka-1000, Bangladesh
Asif Imtiaz, Lecturer, Department of Management Information Systems, Faculty of Business Studies, University of Dhaka, Dhaka – 1000, Bangladesh

ID 005 Mixtures-based Value at Risk Estimates of Financial Stocks
Raven Castro, Shengyu Huang, Jolene Liu and Cesar Acosta-Mejia, Daniel J. Epstein Department of Industrial & Systems Engineering, University of Southern California, Los Angeles, CA 90089, USA
Rafael Blay, Department of Computer Science, University of Southern California, Los Angeles, CA, USA

ID 094 Alternative Digital Packaging Design Strategies to Gain Visibility in E-tailing
Leila Denmamode, Department of Creative Arts, Film and Media Technologies, University of Technology, Mauritius, La Tour Koenig, Mauritius
June Ngo Siok Kheng, Faculty of Applied and Creative Arts, Universiti Malaysia Sarawak, Malaysia

ID 142 IOT and 5G: The Interconnection
Uzairue Stanley, Nsikan Nkordeh and Victor Matthews Olu, Electrical and Information Engineering, Covenant University, Ota Nigeria
Ibinabo Bob-Manuel, IT Consultant, Nigeria

4:30 – 6:00, SATURDAY Design and Analysis Room 7

Session Chair: Bharat Kolluri, University of Hartford, CT, USA

ID 382 Design of an Automated Livestock Milking Machine: Case for Zimbabwean Small Scale Farmers
David Kulani Hlongwane, Department of Mechanical Engineering, University of Zimbabwe, Mount Pleasant, Harare, Zimbabwe
Tawanda Mushiri, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Bunting Road Campus, Johannesburg, South Africa

ID 384 Design of an Automated Poly-Vinyl Chloride (PVC) Pipe Cutting Machine
Thandolwenkosi E Ncube, University of Zimbabwe, Department of Mechanical Engineering, Mount Pleasant Harare, Zimbabwe
Tawanda Mushiri, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Bunting Road Campus, Johannesburg, South Africa

ID 086 Calculate the Cabin Air Bind Effort on Door Closing Efforts for Passenger Vehicle
Mukdam Kena and Dick Newton, Ford Motor Company, Dearborn, MI, USA
Jan Philipp Hakenberg, Institute for Dynamic Systems and Control, Dyn. Systeme u. Regelungstechnik; Switzerland
Ahmed Aljabr and Ahad Ali, Lawrence Technological University, Southfield, MI, USA

ID 134 Implications of the 4th Industrial Revolution on Entrepreneurship Education
Sizwe Mkwanazi and Charles Mbohwa, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 258 Factors Influencing the Growth of Small, Medium and Micro Enterprises in the Zambian Construction Industry
Olusegun Oguntona and Clinton Aigbavboa, University of Johannesburg, Johannesburg, South Africa

Distinguished Speakers – Industry Solutions

Thursday, September 27, 2018

Session I: **Industry Solutions**
2:30 – 4:00 pm (Thursday) – Room 2
Session Chair: Dr. Sergey Ivanov, University of the District of Columbia, Washington DC, USA

2:30 – 3:00 (Thursday)

Foad Hosseinkhanli

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

Application of Hoshin Kanri, Long Term Planning and Strategic Deployment

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.

3:00 – 3:30 (Thursday)

Bob Mathur

Sr. Project Manager
Phillips 66 Refinery (Exxon), Linden, NJ 07036, USA

Latest Tools for Project Engineering & Management in Construction Industry including, Refinery, Pharmaceutical and IT

Prof. Bob Mathur has been teaching post-graduate, Master level courses in Project Management and Project Controls at the New Jersey Institute of Technology (NJIT) as an adjunct professor for the past eight years. He teaches these classes in addition to his full-time employment as a Senior Manager at Phillips 66 Refinery in New Jersey where he is responsible for concept to execution of capital projects for the Refinery. In both the courses Prof. Mathur, therefore, integrates his vast practical experience in engineering and management experience from India, Germany, Holland, England and the USA. He also brings the students a good mix of theory of academics and practice of corporate culture. Prof. Mathur's teaching style is extensively interactive with the students where he shares with them the practical knowledge and experience he has gained in the last 39 years from various countries. He updates his syllabus continuously to ensure that the use of the latest technologies and facilities including smart phones and the associate apps; IPad etc. becomes a part of his teachings. Prof. Mathur is a Chemical Engineer with a MS from Germany. He is currently a Senior Manager for the Phillips 66 Refinery in New Jersey where he is responsible for all engineering estimates for all Capital Projects as well as Project Management and field execution for these projects. He is an active member of the AACE International (Association for the Advancement of Cost Engineering). Prof. Mathur has been the President of the NJ Chapter of this National body for three consecutive years and was the Chairman of the Education Board of the New Jersey Chapter of the AACE. He was the recipient of the Order of the Engineer Award for 1997 from Canada. Bob has been in the Strathmore Who's Who (USA) for two consecutive years in 1997-98 and 1998-99, and was selected in the American Registry of Outstanding Professionals for year 2001-02. He has also been a member of the Board of Executives (Education) of AACE International at Morgantown, West Virginia.

3:30 – 4:00 (Thursday)

Dr. Sergey Ivanov

Professor
Department of Management
School of Business and Public Administration
University of the District of Columbia
Washington DC, USA

Dr. Sergey Ivanov is Professor of Management at the School of Business and Public Administration, University of the District of Columbia, Washington, DC, USA. His professional practice and scholarly interests are in the field of scientific organizational research in government, corporate, multinational, and military organizations. He received Ph.D. from The George Washington University's School of Business, working under the leadership of Dr. Elliott Jaques on dynamic theories in organizational science. Professor Ivanov has taught management and organizational courses at the University of the District of Columbia, as well as The George Washington University, for over a decade, and provided consultancy services to a wide variety of organizations, including the U.S. Department of

Defense, Fortune 1000 Corporations, and others clients. More information about Dr. Sergey Ivanov is available at www.SergeyIvanov.org, where he freely answers questions and shares ideas.

Session II: **Industry Solutions**

4:30 pm – 6:00 pm (Thursday) – Room 2

Professor Donald M. Reimer

Director of Membership and Chapter Development – IEOM Society
President, The Small Business Strategy Group, Detroit, Michigan, USA
Adjunct Faculty – A. Leon Linton Department of Mechanical Engineering
Lawrence Technological University, Southfield, Michigan, USA

Innovation, Entrepreneurship and Corporate Intrapreneurship

Donald M. Reimer is an adjunct faculty at the A. Leon Linton Department of Mechanical Engineering 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.

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. 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.

Session III: **Industry Solutions**

8:00 pm – 6:00 pm (Friday) – Room 2

Lean Six-Sigma Green Belt Workshop

Dr. Saso Krstovski, MBB

Lean Manufacturing Coach /Six Sigma Master Black Belt
Van Dyke Transmission Plant
Ford Motor Company
Michigan, USA

Dr. Saso Krstovski is currently working for Ford Motor Company as Lean Manufacturing Coach/Six Sigma Master Black Belt at the Van Dyke Transmission Plant. He has worked as a Test Engineer, Launch Test Engineer, and Electrical/Control Engineer since 2004. Dr. Krstovski has also, worked at the Dearborn Tool and Die Plant and held various roles in Information Technology as a Systems Analyst, Manufacturing Planning Specialist and Process Engineer from 1996 to 2004. He is detail oriented and data-driven engineer with over 20 years of manufacturing experience. He is diversely skilled and proficient with problem identification and resolution to avoid time/cost expenditures. His expert level skills are in information technology, engineering, testing and manufacturing systems. His background ranges from supervision to engineering. Dr. Krstovski held several different engineering discipline roles within Ford. He has extensive six sigma knowledge inside and outside of the Ford organization. Dr. Krstovski collaborated with the education sector on manufacturing systems projects and provided ideas on several occasions. He has received the Doctor of Engineering in Manufacturing Systems (DEMS) from Lawrence Technological University. Dr. Krstovski has Masters in Electrical Computer Controlled Systems from Wayne State University. He has several paper publications and scientific articles.

Lean Six Sigma workshop will cover each of the DMAIC steps along with group exercises to allow attendees to clearly understand the concepts.

AGENDA

Introduction of Participants

Define
- Understand Six Sigma
- Six Sigma Fundamentals
- Selecting Projects
- Elements of Waste

Measure
- Six Sigma Statistics
- Measurement System Analysis
- Process Capability

Analysis
- "X: Sifting
- Inferential Statistics
- Hypothesis Testing

Improve
- Correlation
- Regression
- Design Experiments

Control
- Lean Controls
- Defect Controls
- Statistical Process Controls (SPC)

Group Project

Partners

University Partners

- Center for Advanced Systems Research and Education (CASRE), Tickle College of Engineering, The University of Tennessee, Knoxville
- Eastern Michigan University
- Florida Polytechnic University
- Kettering University
- Lawrence Technological University, Michigan, USA
- North Carolina A&T State University
- Oakland University, Rochester, Michigan
- Rutgers, The State University of New Jersey
- University of Eyvanekey, Iran
- University of Michigan, Dearborn
- University of New Brunswick at Fredericton, Canada
- University of Rosario, Bogota, Colombia
- University of the District of Columbia
- Wayne State University, Michigan

Corporate Partners

- Eaton Corporation
- SIEMENS

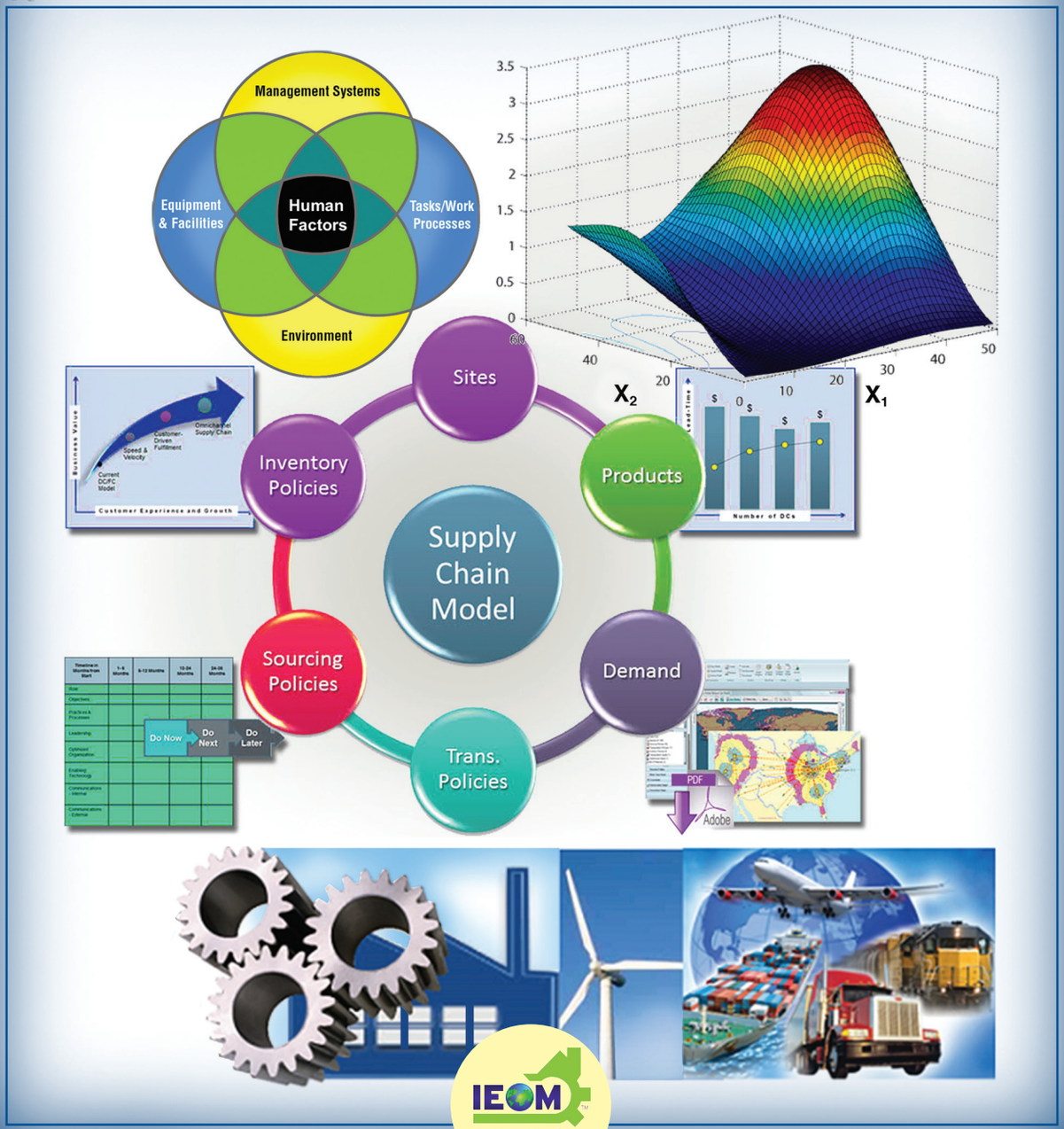
Organization Partners

- African Engineering Education Association (AEEA)
- BKSTI: Agency for Cooperation of Higher Education of Industrial Engineering, Indonesia
- Indian Institute of Industrial Engineering (IIIE)
- International Federation of Engineering Education Societies (IFEES)
- Pakistan Society of Industrial Engineering (PSIE)
- Society of Cost and Quality Engineers (SCQE)

Sponsors and Partners

International Journal

of Industrial Engineering and Operations Management



IEOM Student Chapters

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

Suggested Student Chapter Activities

Workshops and Seminars
Industry Speakers
Plant Tours
Communication Development
Career Development
Networking
Poster and Paper Contest
Fund Raising
Membership Building
Community Outreach
Alumni Relations
Leadership and Teambuilding Skills

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

IEOM Professional Chapters

AFRICA

- IEOM Society of Botswana
- IEOM Society of Cameroon
- IEOM Society of Ethiopia
- IEOM Society of Ghana
- IEOM Society of Kenya
- IEOM Society of Libya
- IEOM Society of Mauritius
- IEOM Society of Morocco
- IEOM Society of Namibia
- IEOM Society of Nigeria
- IEOM Society of Tunisia
- IEOM Society of Zimbabwe

EUROPE

- IEOM Society of Bulgaria
- IEOM Society of France
- EOM Society of Greece
- IEOM Society of Italy
- IEOM Society of Portugal
- IEOM Society of Russia

ASIA and AUSTRALIA

- IEOM Society of Australia
- IEOM Society of Bangladesh
- IEOM Society of Bhutan
- IEOM Society of Indonesia
- IEOM Society of Kazakhstan
- IEOM Society of Malaysia
- IEOM Society of Pakistan
- IEOM Society of Sri Lanka
- IEOM Society of Uzbekistan

MIDDLE EAST

- IEOM Society of Iran
- IEOM Society of Iraq
- IEOM Society of Jordan
- IEOM Society of Lebanon
- IEOM Society of Qatar
- IEOM Society of Saudi Arabia
- IEOM Society of UAE
- IEOM Society of Yemen

NORTH AMERICA

- IEOM Society of Michigan
- IEOM Society of New York
- IEOM Society of Oregon
- EOM Society of Washington DC

SOUTH AMERICA

- IEOM Society of Colombia
- IEOM Society of Peru

CENTRAL AMERICA AND CARIBBEAN

- IEOM Society of Costa Rica

IEOM Society of Honduras

International Journal of Industrial Engineering and Operations Management (IJIEOM)

www.ieomsociety.org/journals/

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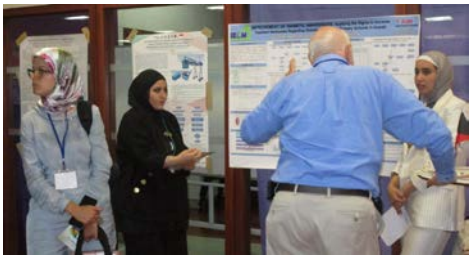
Editor-in-Chief

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

Second European IEOM Conference, Paris, France, July 26-27, 2018



8th IEOM International Conference (Bandung, Indonesia, March 6-8, 2018)

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

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

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

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

IEOM 2017 Morocco Conference Photos (April 11-13, 2017)

IEOM 2016 Malaysia Conference Photos (March 8-10, 2016)

IEOM 2016 Detroit Conference Photos (September 23-25, 2016)

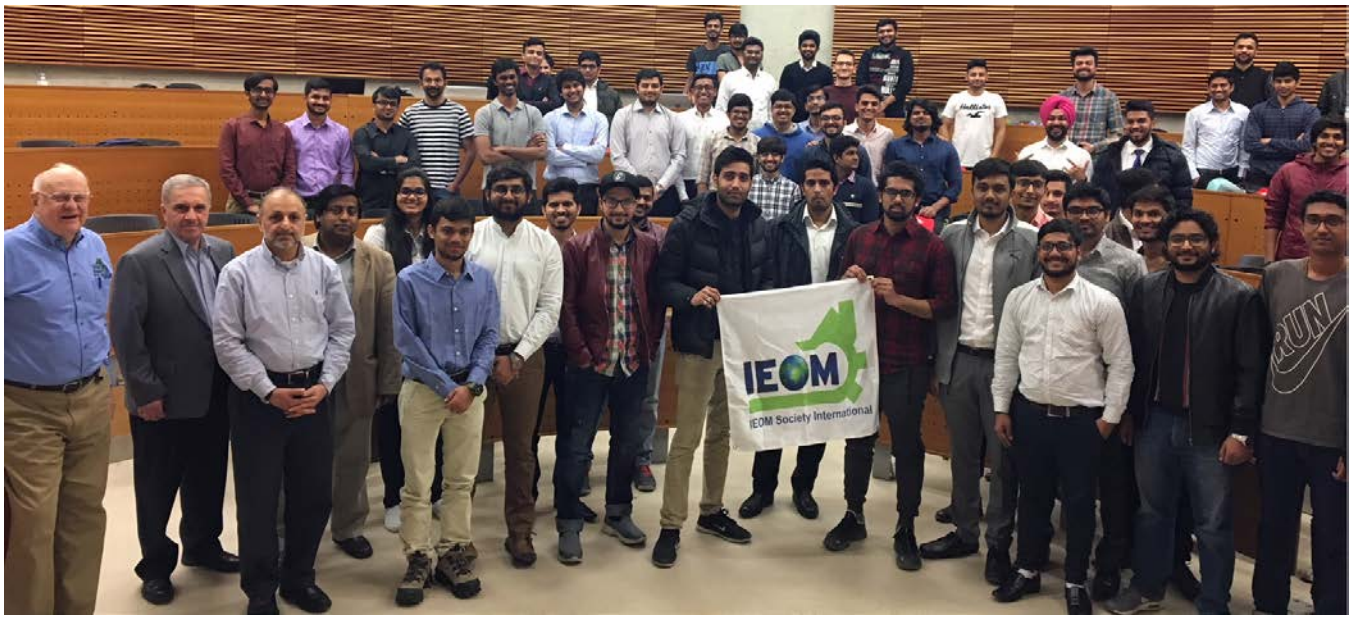
IEOM Women in Industry and Academia Forum

Website: http://ieomsociety.org/ieom/women-in-industry-and-academia/

Awards: www.ieomsociety.org/awards/

IEOM Student and Professional Chapter Activities: www.ieomsociety.org/chapters/

University of Windsor, Canada



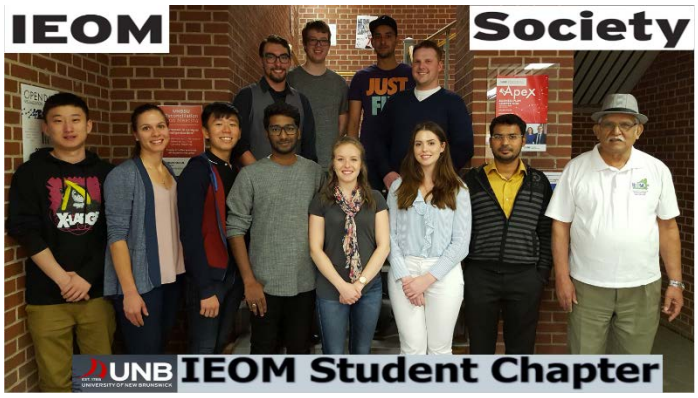
Lawrence Technological University, Southfield, Michigan

Effat University, Jeddah, Saudi Arabia

Sudan University of Science and Technology

Zagazig University, Egypt

University of New Brunswick at Fredericton, Canada



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

IEOM in Cost Rica

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

Faculty Advisor

Promoting IEOM Society at RobotiFEST UCR 2017

Guru Nanak Dev Engineering College, Ludhiana, Punjab, India

University of Johannesburg, South Africa

Government College University Faisalabad (GCUF), Pakistan

IEOM Student Chapter at Universiti Tun Hussein Onn Malaysia (UTHM)

Khulna University, Bangladesh

IEOM Student Chapter at Institut Teknologi Bandung (ITB)

IEOM Student Chapter at Bay Area (San Francisco & San Jose)

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

IEOM Michigan Chapter

IEOM Partner Events

INFORMS Annual Meeting 2018 November 4 - 7, 2018 Phoenix, Arizona, USA	**IFEES - WEEF-GEDC 2018** November 11 - 15, 2018 Albuquerque, New Mexico
Diamond Jubilee Convention of IIIE and International Conference ICIEIND Date: 27th to 30th September,2018 Venue : ITER, Bhubaneswar The conference website is www.icieind.in	
2nd Annual Industry Symposium and Workshop Creating an Operational Excellence Culture for the Millennial Workforce Offered **By The Center For Advanced Systems Research & Education (CASRE)** University of Tennessee November 8, 2018 - 8:00 a.m. to 3:00 p.m. Please contact Carla Arbogast, Tel. 865 974 9965, e-mail: carboga1@utk.edu for details.	

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IEOM First Symposium on "Application-based Industrial Engineering Education"

Date: 4 August, 2018; Venue: Jessore University of Science and Technology (JUST), Bangladesh

Organized by JUST and IEOM Society of Bangladesh

Theme: Present scenario of IE Education in Response to Global Environment and Contribution of IE to Industrial Development in Bangladesh

IEOM Brazil 2018 Visit

IEOM Team has visited Production Engineering Department of Polytechnic School, University of Sao Paulo (USP), Brazil on June 25, 2018. Photos from left - Prof. Dr. Renato de Oliveira Moraes, Prof. Marcelo Schneck de Paula Pessoa (Deputy Department Head), Professor Don Reimer, Prof. Fernando José Barbin Laurindo (Department Head), Prof. Mauro de Mesquita Spinola, Dr. Ahad Ali, and Prof. Vitor Caldana (IFSP – Sorocaba).

IEOM team visited Department of Production Engineering at University of São Paulo - Sao Carlos (USP-SC), SP, Brazil: Prof. Reginaldo T. Coelho (Nucleus of Advanced Manufacturing, Institute Factory of Millennium), Prof. Vitor Caldana (IFSP – Sorocaba), Professor Don Reimer, Professor Eraldo Jannone da Silva (Nucleus of Advanced Manufacturing, Institute Factory of Millennium), and Prof. Aldo Roberto Ometto Coordinator of Post Graduate Program of Production Engineering at EESC-USP)

IEOM team visited Department of Production Engineering at Federal University of Sao Carlos (UFSCar), SP, Brazil: Dr. Ahad Ali, Prof. Dr. Roberto Antonio Martins, Professor Rosane L. Chicarelle Alcantara, Professor Hildo Meirelles de Souza Filho (Head of Production Engineering), Professor Don Reimer and Prof. Vitor Caldana (IFSP – Sorocaba)

Visited FACENS (Soracaba Engineering College), Sorocaba, SP, Brazil on July 3, 2018. Photo includes Eng. Paulo Roberto Freitas de Carvalho Facens (Director), faculty and students.

IEOM team visited Universidade Presbiteriana Mackenzie Campinas, SP, Brazil: Prof. João Carlos Gabriel - Coordinator of the Civil Engineering at the Center for Science and Technology - CCT – Mackenzie (far left) and Prof. Luiz Vicente Figueira de Mello Filho - Coordinator of the Production Engineering Course at Mackenzie Presbyterian University (far right).

Visited University of Sorocaba (UNISO), Sao Paulo, Brazil on July 2, 2018. Photo includes Mr. Osmar Renato de Barros Siqueira (center), Head of the International Office, Universidade de Sorocaba – Uniso.

IEOM Team visited IFSP of Sorocaba campus, SP, Brazil on June 29, 2018. Photos include Ms. Cynthia Fisher (International Relations Advisor of The Federal Institute of Education, Science and Technology, Sao Paulo) and Dr. Denilson C. Mirim (Director – IFSP – Sorocaba).

Visited Federal University of São Carlos (UFSCar) - Sorocaba campus, Brazil on July 2, 2018.

Meeting with Mr. Leonardo E. Wilinski, VP South America Channel, Siemens Industry Software, Digital Factory Division, Product Lifecycle Management, Sao Paulo, SP, Brazil at IFSP-Sorocaba campus on June 29, 2018.

IEOM Global Engineering Education Symposium Speakers at Instituto Federal de São Paulo – Campus Sorocaba, SP, Brazil: Dr. Ahad Ali (USA), Professor Donald M. Reimer (USA), Prof. Vitor M. Caldana (IFSP – Instituto Federal de São Paulo), Dr. Marcia Terra da Sihra (Paulista University – UNIP) and Profa. MSc. Eliane Regina Rodrigues Message (ZorrfaTec, SP, Brazil). Symposium Chair - Prof. Vitor M. Caldana.

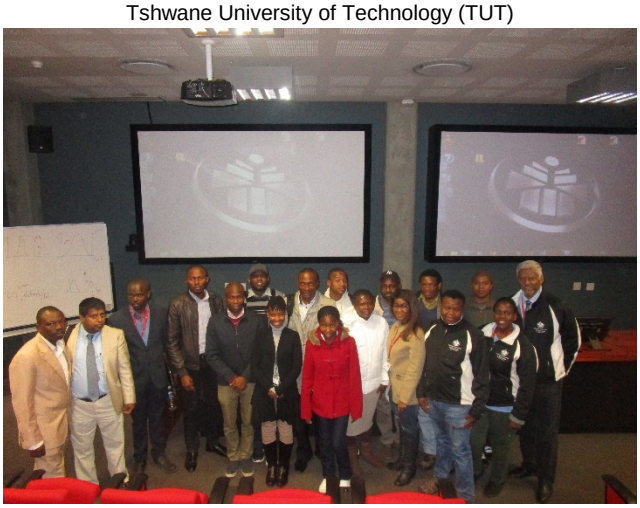
IEOM Bangladesh Workshop

Lean Six Sigma Workshop at Comfit Composit Knit Ltd, Gorail, Tangail, Bangladesh, August 1, 2018

IEOM South Africa Visit - May 2018

Tshwane University of Technology (TUT)

Vaal University of Technology (VUT)



Tshwane University of Technology

University of Pretoria (UP)

South Africa IEOM Conference Planning Dinner meeting at Menlyn Mall of Pretoria (May 8, 2018) with Prof. Khumbulani Mpofu (Gibela Research Chair in Manufacturing and Skills Development, Industrial Engineering Dept., Tshwane University of Technology, Pretoria), Dr. Olufemi Adetunji (Senior Lecturer, Industrial and Systems Engineering, University of Pretoria), Prof. Charles Mbohwa (Professor Charles Mbohwa, Acting Executive Dean, Faculty of Engineering and the Built Environment at the University of Johannesburg), Dr. Ahad Ali (Associate Professor of LTU), Dr. Grace Kanakana Katumba (Deputy Executive Dean, College of Science, Engineering and Technology, University of South Africa, Florida), Dr. Bolanle Tolulope Abe (Senior Lecturer and Academic Manager of Department of Electrical Engineering, TUT, eMalahleni Campus), Professor Sarma Yadavalli (Head of ISE, UP), and Ms. Thaba, Sebonkile (Lecturer, University of Johannesburg).

University of Johannesburg

University of South Africa (UNISA), Florida Campus, KSA

IEOM BUET Visit

In front of IPE Department, BUET on August 14, 2018 after IEOM Presentation to Faculty and Students.

With VC of BUET, showing IEOM activities on August 14, 2018

Dr. Grace Kanakana – Katumba, UNISA, South Africa and her husband visited IEOM Office

Dr. Bandar Alkhayyal from PSU, Saudi Arabia and Dr. Sarder Sadique from Canada visited IEOM Office

IEOM University of Monterrey (UDEM), Mexico Visit, May 29-30, 2018

IEOM KUET Visit, August 6, 2018

IEOM Student Chapters around World

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

Bangladesh
2. Ahsanullah University of Science & Technology, Dhaka
3. Bangladesh Univ. of Engineering and Technology (BUET)
4. Islamic University of Technology (IUT)
5. Jessore University of Science and Technology (JUST)
6. Khulna University
7. Khulna University of Engineering and Technology (KUET)

Botswana
8. University of Botswana

Brazil
9. Federal University of Sao Carlos (UFSCar)
10. Federal University of Santa Catarina (UFSC)
11. Univeristy of Sao Paulo (USP) – Sao Carlos
12. Federal Institute of Sao Paulo (IFSP) – Sorocaba
13. Faculdade de Engenharia de Sorocaba (FACENS)

Canada
14. University of New Brunswick at Fredericton
15. University of Windsor

Colombia
16. Fundación Univ. Tecn. Comfenalco, Cartagena, Bolívar
17. University of Rosario, Bogota
18. University of Quindio
19. Universidad de San Buenaventura, Cali, Valle

Costa Rica
20. University of Costa Rica

Czech Republic
21. University of West Bohemia, Pilsen

Ecuador
22. Technical University of Ambato

Egypt
23. Zagazig University

Finland
24. University of Vaasa

France
25. IESEG School of Management
26. Lorraine University, Metz

Greece
27. Technological Education Institute (TEI), Thessaly, Larissa

India
28. College of Engineering Guindy (Anna University), Chennai
29. Guru Nanak Dev Engineering College, Ludhiana, Punjab
30. Pandit Dendayal Petroleum Univ., Ahmedabad, Gujrat
31. P.D.A. College of Engineering, Gulbarga, Karnataka, India
32. Vellore Institute of Technology
33. Vidya Jyothi Institute of Technology, Hyderabad

Indonesia
34. Bina Nusantara University (Binus), Indonesia
35. Institut Teknologi Bandung
36. Institut Teknologi Sepuluh Nopember (ITS)
37. Sampoerna University, Jakarta
38. University of Indonesia
39. Universitas Sebelas Maret (UNS), Surakarta

Iran
40. MehrAstan University, Guilan
41. University of Eyvanekey

Iraq
42. Babylon University

Italy
43. University of Salento

Japan
44. Ashikaga University

Kenya
45. Kenyatta University, Nairobi

Malaysia
46. Universiti Malaysia Sabah (UMS)
47. Universiti Putra Malaysia (UPM)
48. Universiti Teknologi Malaysia (UTM)
49. Universiti Tun Hussein Onn Malaysia (UTHM)
50. Universiti Utara Malaysia (UUM)

Morocco
51. Akhawayn University
52. Ecole Mohammadia d'Ingénieurs (EMI)

Namibia
53. National Univ. of Sci. and Tech. in Windhoek, Namibia

Nepal
54. Kathmandu University
55. Tribhuvan University

Oman
56. Sultan Qaboos University

Pakistan
57. Dawood University of Engineering and Tech, Karachi
58. Government College University Faisalabad
59. Mehran Univ. of Engineering and Tech, Jamshoro, Sindh

Peru
60. National University of San Antonio Abad, Cusco, Peru

Philippines
61. LPU Laguna

Qatar
62. Qatar University

Saudi Arabia
63. Alfaisal University
64. Effat University
65. King Abdulaziz University (KAU)
66. King Fahd University of Petroleum and Minerals (KFUPM)
67. King Saud University (KSU)
68. Prince Sultan University

South Africa
69. Tshwane University of Technology (TUT)
70. University of Johannesburg (UJ)
71. University of South Africa (UNISA)
72. Vaal University of Technology (VUT)

Sri Lanka
73. University of Kelaniya
74. University of Peradeniya

Sudan
75. Sudan University of Science and Technology, Khartoum

Thailand
76. Chulalongkorn University, Bangkok
77. Chiang Mai University

UK
78. University of Derby
79. University of the West of England (UWE), Bristol

USA
80. Central Connecticut State University
81. Eastern Michigan University
82. Lawrence Technological University, Michigan, USA

Venezuela
83. Catholic University Andrés Bello (UCAB), Caracas

Zimbabwe
84. University of Zimbabwe, Harare

High School / Middle School Student Chapters
85. Bay Area of San Francisco & San Jose, California, USA

Upcoming Events

1st African Int. Conference on
Industrial Engineering and Operations Management
Pretoria/Johannesburg, South Africa
October 29 - November 1, 2018

www.ieomsociety.org/southafrica2018/

9th IEOM International Conference

JW Marriot Hotel, Bangkok, Thailand, March 5-7, 2019

Conference Website: www.ieomsociety.org/ieom2019/

9th International Conference on
Industrial Engineering and Operations Management
March 5-7, 2019, Bangkok, Thailand
Venue: JW Marriot Bangkok

3rd EU International Conference on
Industrial Engineering & Operations Management
Pilsen, Czech Republic, July 23-26, 2019
Venue: Park Hotel Pilsen, Czech Republic

www.ieomsociety.org/pilsen2019/

4th North American Conference on
Industrial Engineering & Operations Management
Toronto, Canada, October 23-25, 2019
Venue: Sheridan College, Brampton, Ontario

www.ieomsociety.org/toronto2019/

2nd South American Conference on
Industrial Engineering & Operations Management
São Paulo, Brazil, April 14-16, 2020
Venue: Maksoud Plaza Hotel, São Paulo

www.ieomsociety.org/brazil2020/