First African International Conference on Industrial Engineering and Operations Management

Pretoria/Johannesburg, South Africa

October 30 – November 1, 2018

Saint George Hotel – Pretoria

Host Universities

Tshwane University of Technology
University of Pretoria
UNISA

INTERNATIONAL

Host Universities

Saint George Hotel – Pretoria

THWANE UNIVERSITY
OF TECHNOLOGY

UNIVERSITY OF PRETORIA
UNIVERSITY OF TECHNICAL EDUCATION
UNIVERSITY OF NATIONAL SCIENCE AND TECHNOLOGY

UNISA
Welcome to the First African IEOM Conference in Pretoria, South Africa

To All Conference Attendees:

On behalf of the IEOM Society International, we would like to welcome you to the First African International Conference on Industrial Engineering and Operations Management, and to Gauteng, the provincial home of Johannesburg the business capital, and Pretoria the executive capital of South Africa. 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. This conference will provide an excellent opportunity to network with leading scholars and practitioners. The program includes many cutting edge topics of industrial engineering and operations management. Submissions have been received from more than 30 countries. Full papers have been double blind peer-reviewed by at least two technical experts and will be indexed in Scopus, subject to satisfying IEOM Quality Standards.

Technological advancement has been the driver of all military and industrial revolutions and restructuring of global power balance, and yet we stand at an edge of history where simultaneous advancement in multiple areas of technology is again redefining our world as we knew it. Some of these issues will be addressed by our keynote speakers:

- Welcome Address: Livhuwani Tommy Makgode, Deputy Director-General: Institutional Planning and Support, Department of Science and Technology, Republic of South Africa
- Opening 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 Tennessee, Knoxville, Tennessee, USA
- Khaya Madiba, Bogie - Subsystem & Maintenance Engineer, Gibela-Rail, South Africa
- Cobus Oosthuizen, Chief Executive Officer, ESTEQ, Pretoria, Gauteng, South Africa
- Professor Angina Parekh, Deputy Vice Chancellor: Academic, University of Johannesburg, South Africa and Former Special Advisor on Higher Education to the Minister of Education
- Dr. Abu Masud, P.E., Boeing Global Engineering Professor Emeritus, Professor of Industrial and Manufacturing Engineering, Wichita State University, Kansas, USA – “Student Learning: Assessment and Improvement”
- Arthur Mutambara, Former Deputy Prime Minister of Zimbabwe, Visiting Full Professor - University of Johannesburg
- Dr. AAA. Atayero, Vice Chancellor, Covenant University, Ota, Ogun State, Nigeria
- Dr. Sundaravalli Narayanaswami, Indian Institute of Management, Ahmedabad, India
- Dr. Eugén Ranft, Operations Manager, Eaton Electric (South Africa) (Pty) Ltd, Johannesburg, South Africa

Global Engineering Education features distinguished speakers who will discuss the workforce readiness of engineering graduates around the world. Twenty four featured speakers will address engineering education challenges and opportunities. The Industry Solutions Track will address what industry needs in order to survive in the competitive environment. Distinguished practitioners will share their experiences and journey. A panel session with distinguished eight speakers for the IEOM Women in Industry and Academia (WIIA) will address the challenges and opportunities for female in the workforce and contribute to South African development.

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.

The Conference Organizing Committee wishes you an enjoyable learning experience at the conference and invites you to explore South Africa with its many outstanding attractions and historic sites like the cradle of human kind, apartheid museum, national parks - including the Kruger, the castle of good hope, Nelson Mandela’s capture site, Isandlwana battle fields, Robben Island, Voortrekker monument, the beautiful countryside scenery, the Karoo’s flat topography hosting the square kilometer array radio telescopes and, of course, our exquisite university campuses, amongst others. Please make sure you have a lot of fun during the conference!

Conference Chairs

[Images of conference chairs]
Conference Program

October 29, 2018 (Monday)
13:00 – 20:00 Registration
20:00 – 22:00 IEOM Meetings

October 30, 2018 (Tuesday)
07:00 – 17:00 Registration
08:00 – 09:30 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
09:40 – 11:00 Welcome Keynote: Livhuwani Tommy Makhode, Deputy Director-General: Institutional Planning and Support, Department of Science and Technology, South Africa - SPARTAN 1 Ballroom
10:10 – 11:00 Opening 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 Tennessee, Knoxville, Tennessee, USA - SPARTAN 1 Ballroom
11:00 – 11:30 Networking Break

11:30 – 12:15 Keynote II: Khaya Madiba, Bogie - Subsystem & Maintenance Engineer, Gibela-Rail, South Africa-Spartan 1
12:15 – 13:00 Keynote III: Cobus Oosthuizen, Chief Executive Officer, ESTEQ, Pretoria, Gauteng, South Africa - Ballroom
13:00 – 14:30 Networking Lunch Buffet - SPARTAN 1 Ballroom
14:30 – 16:00 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
16:00 – 16:30 Networking Break
16:30 – 18:00 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
18:00 – 19:30 Poster Session and Student Chapter Mixer

October 31, 2018 (Wednesday)
07:00 – 17:00 Registration
08:00 – 09:30 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
09:40 – 10:15 Wednesday Keynote I: Professor Angina Parekh, Deputy Vice Chancellor: Academic, University of Johannesburg, South Africa and Former Special Advisor on Higher Education to the Minister of Education - SPARTAN 1 Ballroom
10:15 - 11:00 Wednesday Keynote II: Dr. Abu Masud, Professor Emeritus, Department of Industrial and Manufacturing Engineering, Wichita State University, Kansas, USA - SPARTAN 1 Ballroom
11:00 – 11:30 Networking Break
11:30 – 12:15 Wednesday Keynote III: Arthur Mutambara, Former Deputy Prime Minister of Zimbabwe and Visiting Full Professor at the University of Johannesburg - SPARTAN 1 Ballroom
12:15 – 13:00 Wednesday Keynote IV: Dr. AAA. Atayero, Vice Chancellor, Covenant University, Ota, Ogun State, Nigeria - SPARTAN 1 Ballroom
13:00 – 14:30 Networking Lunch Buffet - SPARTAN 1 Ballroom
14:30 – 16:00 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
16:00 – 16:30 Networking Break
16:30 – 18:00 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
19:00 – 22:00 CONFERENCE AWARDS DINNER - SALONICA

November 1, 2018 (Thursday)
07:00 – 17:00 Registration
08:00 – 09:30 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
09:40 – 10:20 Saturday Morning Keynote I: Dr. Sundaravalli Narayanaswami, Indian Institute of Management, Ahmedabad, India - SPARTAN 1 Ballroom
10:20 - 11:00 Saturday Morning Keynote II: Dr. Eugén Ranft, Operations Manager, Eaton Electric (South Africa) (Pty) Ltd, Johannesburg, South Africa - SPARTAN 1 Ballroom
11:00 – 11:30 Networking Break
11:30 – 13:00 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
13:00 – 14:30 Networking Lunch Buffet - SPARTAN 1 Ballroom
14:30 – 16:00 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
16:00 – 16:30 Networking Break
16:30 – 18:00 Parallel Sessions - Spartan 2, 3 & 4 and Acropolis 2, 3, 4 & 5
Keynote Speakers

9:40 am, Tuesday, October 30, 2018 – Welcome Addresses

Mr. Livhuwani Tommy Makhode
Deputy Director-General; Institutional Planning and Support
Department of Science and Technology
Republic of South Africa

Livhuwani Tommy Makhode is currently Deputy Director-General: Institutional Planning and Support the Department of Science and Technology. Amongst others he is responsible for developing Departmental Strategic Plans and Annual Performance Plans for the Department of Science and Technology. Providing to support to DST entities for Board appointments, monitoring and evaluation of their performance with regards to both financial and non-financial performance information. He was Former Chief Director: Science Communication, Department of Science and Technology. Also worked at SABC as National TV News Editor, former Director: Media Liaison, Ministry of Education. Mr. Makhode hold an MPhil from the Nelson Mandela Metropolitan University (formerly University of Port Elizabeth) and a BA(Ed) from the University of Venda.

10:00 am, Tuesday, October 30, 2018 – Opening Keynote

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 Tennessee
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).

11:30 am – 12:15 pm, October 30, 2018 – Tuesday Keynote

Khaya Madiba (MPhil)
Bogie - Subsystem & Maintenance Engineer
Gibela-Rail, South Africa

Mr. Khaya Madiba is a Subsystem and Maintenance Engineer at Gibela-Rail, developer of the SMME business management strategy RBM LifeStyle and author of the book ‘Just Evolve, For Effective Business Growth’. He was born in a small town of Mthatha in the Eastern Cape, South Africa.

He holds a Master’s Degree in Engineering Management from the University of Johannesburg (UJ). He devoted his dissertation to the on-going debate of the downfalls of poor quality control, project quality management systems that many small and emerging companies in South Africa fail to implement in the projects. He received BTech Structures, Civil Engineering from University of Johannesburg and NationalDiploma in Civil Engineering from Tshwane University of Technology.

He played rugby for the All Blacks Res Rugby Team and assisted with the mix design and concrete tests done on campus by the S1 and S2 students in Civil Engineering.

He developed a business improvement approach – Results Based Management LifeStyle Approach – during his time employed at a coal mine in Mpumalanga, where he was able to reduce operating costs by half a million rand over 8 months, without changing the operating times and compromising on the quality.
Cobus Oosthuizen  
Chief Executive Officer  
ESTEQ  
Pretoria, Gauteng, South Africa

Mr. Cobus Oosthuizen is an Entrepreneur/Businessman/Mechanical Engineer. He loves to help people to grow, develop and reach their full potential. Mr. Oosthuizen is passionate about Technology. He makes it his mission in Life to create environments where people can grow and develop. He enjoys solving difficult problems and helping people to succeed, both in Engineering and Mr. Oosthuizen currently holds an Honours degree in Mechanical Engineering from the University of Pretoria and a Masters in Business Leadership from UNISA. His work experience covers the fields of Experimental Stress Analysis, Vibration Analysis, Modal Testing, Finite Element Analysis and Fracture and Fatigue Analyses in my early engineering career and is currently involved in Strategic Consulting, Business Process Improvement, Innovation Management, Product Lifecycle Management as well as high level Digitalisation consultation and implementation.

Mr. Oosthuizen currently holds the position of Managing Director with ESTEQ PLM and CEO of the ESTEQ Group. He is passionate about Photography and outside of work I enjoy Cycling and 4x4.

Professor Angina Parekh  
Deputy Vice Chancellor: Academic  
University of Johannesburg  
South Africa  
Former Special Advisor on Higher Education to the Minister of Education

Professor Angina Parekh is the Deputy Vice Chancellor: Academic at the University of Johannesburg, South Africa. Prior to that appointment, she served as a Special Advisor on Higher Education to the Minister of Education. During her years in government, she headed the restructuring and transformation of South Africa’s higher education system through mergers and incorporations, and contributed significantly to higher education policy formulation, including the National Plan for Higher Education, the Language Policy for Higher Education, and the Higher Education Qualifications Framework. She has served on several Ministerial task teams, including chair of the Ministerial Working Group on the establishment of a National Higher Education Information and Applications Service for South Africa. Professor Parekh has held several academic appointments, including Chair of the Department of Psychology. She was a founder member of the 1st Centre International Academic Advisory Committee and a member of its Scientific Technical Review Committee. She is also on board of the Higher Education Quality Committee of the Council of Higher Education.

Dr. Abu Masud, P.E.  
Professor Emeritus  
Department of Industrial and Manufacturing Engineering  
Wichita State University  
Kansas, USA

Student Learning: Assessment and Improvement

Dr. Abu Masud is an emeritus professor of industrial and manufacturing engineering at Wichita State University. He was named the Boeing Global Engineering Professor at Wichita State University. Dr. Masud advanced the College of Engineering’s strategic alliances for global enrichment and experiential learning of students as well as international research collaborations and partnerships. He received Duane and Velma Wallace Outstanding Educator Award from WSU College of Engineering. Previously he was held various positions at Wichita State including dean and associate dean of graduate school (2008-2013), coordinator, college ABET affairs (2006-2008), associate dean, college of engineering (2004-2005), chair, industrial and manufacturing engineering department (1994-2004) and graduate coordinator of IME (1991-94, 1996-98, 2001-2004). Dr. Masud has engaged with various companies and governmental research centers including NASA Langley Research Center, VA, NASA/ASEE Summer Faculty Fellow (1991 and 1992), Boeing, Consulting Analyst, and Kuwait Institute for Scientific Research. He is member of Accreditation Review Council (2011-2014). Dr. Masud published book, book chapters, and numerous journal and conference papers. He is registered Professional Engineer at Kansas State. Dr. Masud is an IIE fellow. He received Ph.D. and M.S. in Industrial Engineering from Kansas State University, and B.S. in Mechanical Engineering from Bangladesh University of Engineering & Technology.
Arthur Mutambara
Former Deputy Prime Minister of Zimbabwe
Visiting Full Professor at the University of Johannesburg

Arthur Mutambara is a former Deputy Prime Minister of Zimbabwe. He is the author of a new trilogy, In Search of the Elusive Zimbabwean Dream: An Autobiography of Thought Leadership. He was one of the three principals who created and led the Government of National Unity (GNU). The other two were then Prime Minister Robert Tsvangirai, and then President Robert Mugabe. As Deputy Prime Minister, his functions included assisting the Prime Minister with policy formulation and the supervision of policy implementation. He worked on three major national initiatives, namely Shared National Vision, Rebranding Zimbabwe, and the National Infrastructure Master Plan.

He is currently a Visiting Full Professor with the University of Johannesburg. He is also an independent technology and strategy consultant, based in South Africa. He recently served as President of the African News Agency (ANA). His primary mandate included media technology innovation, digital platform development, and harnessing social media tools. He was driving the use of Artificial Intelligence and the deployment of Intelligent Algorithms in the media, resulting in the development of new business models. He is a Chartered Engineer, a Fellow of the Institute of Engineering and Technology (IET), a Professional Engineer, a Fellow of the Zimbabwe Institute of Engineers (ZIE), and a Senior Member of IEE. He was a Research Scientist at NASA, Visiting Professor at MIT, Professor at FAMU-FSU, and a Management Consultant with McKinsey & Company. He has written two books about electrical engineering. He holds a PhD in Robotics and Mechatronics and an MSc in Computer Engineering, both from the University of Oxford, where he was a Rhodes Scholar. He graduated with a BSc (Honours) in Electrical Engineering from the University of Zimbabwe. In 2007, Mutambara was accorded World Economic Forum (WEF) Young Global Leader status, and subsequently attended WEF events in Davos, China, India and Africa.

AAA. Atayero, Ph.D.
Vice Chancellor
Covenant University
Ota, Ogun State
Nigeria

AAA. Atayero, Ph.D., the Covenant University Professor of Communication Engineering, is the current and 4th Substantive Vice-Chancellor of the University. He served as the pioneer Deputy Vice-Chancellor (Academic), Coordinator School of Engineering, and twice as HoD of Electrical and Information Engineering of the University. Professor Atayero has a Bachelor of Science Degree in Radio Engineering, and a Master of Science Degree in Satellite Communication Systems in 1992 and 1994 respectively. He earned his Ph.D. from the Moscow State Technical University of Civil Aviation (MSTUCA) in 2000. Atayero is a Fellow of the Science Association of Nigeria, the Institute of Management Consultants, and a Senior Research Fellow of the International Association of Research Scholars and Administrators.

Engineer Atayero is a COREN Registered Engineer, member of the Institute of Electrical and Electronic Engineers (IEEE), and, as an avid researcher, having published over in International peer-reviewed journals and proceedings, Professor Atayero is the Team Lead, Covenant University Smart City (SmartCU) Project, as well as the Head, Covenant University IoT-Enabled Smart & Connected Communities Research Cluster. He is on the editorial board of several international scientific and engineering Journals and is a recipient of various awards and scholarships including the ‘2009 Ford Foundation Teaching Innovation Award’, as well as the 2017 African Entrepreneurs Merit ‘Award for Excellence & Leadership’. His current research interests are in various aspects of Communication Engineering, including (but not limited to): Wireless Sensor Networks, Wireless (Mobile) Communications, Internet of Things (IoT), Smart Cities, and Cyber Physical Systems.

Dr. Sundaravalli Narayanaswami
Indian Institute of Management
Ahmedabad, India

Sundaravalli Narayanaswami is on the faculty, Public Systems group, IIM Ahmedabad. She earned her PhD in Industrial Engineering and Operations Research from IIT Bombay, India after a Masters in Computer Science. Her research and teaching interests involve applications of ICT and OR tools in real-life problems of large impact. Sundaravalli has taught at various Institutions in India and abroad. She publishes and reviews regularly for scholarly editorials and presents her research findings among peers, both in India and abroad. She is a life member of several professional associations and was a Fellow of the British Computer Society (2009-2013). She serves on the Editorial board of the Annals of Management Science.
Eugén Ranft PrEng, PhD
Operations Manager
Eaton Electric (South Africa) (Pty) Ltd
Johannesburg, South Africa

Eugén Ranft is the Operations Manager for Eaton. With over a decade of experience in the industry, Ranft oversees the effectiveness of Eaton’s day-to-day activities, playing a vital role in the growth of the business. Prior to this, Ranft headed up Proconics’ Sasolburg Operations delivering engineering services primarily focused on the Petro Chemical industry. Ranft began his career at Proconics Sasolburg as a key role player growing the Sasolburg electrical team from one resource to 19.

Ranft holds a Doctor of Philosophy (Ph.D.) in Electrical and Electronic Engineering from North-West University/Noordwes-Universiteit. His Ph.D thesis explored an improved model for self-sensing heteropolar active magnetic bearings. Ranft’s academic research has been published in numerous accredited journal articles including Sensors & Actuators, SAIEE Africa Research Journal and Applied Mathematical Modelling Journal. Ranft also holds a Master of Engineering (M. Eng) and a Bachelor of Engineering (B. Eng) in Electrical and Electronics Engineering from North-West University/Noordwes-Universiteit. He is a certified Professional Engineer accredited by the Engineering Council of South Africa.

Ranft is located in Johannesburg, South Africa and speaks English and Afrikaans.

Eaton is a power management company with 2015 sales of $20.9 billion. Eaton provides energy efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power more efficiently, reliably, safely and sustainably. Eaton has approximately 97,000 employees and sells products to customers in more than 175 countries. For more information, visit www.eaton.com.
**DISTINGUISHED SPEAKERS**

Tuesday (October 30, 2018)

**Session I: Global Engineering Education (Room - Spartan 2)**  
Session Chair: Dr. Olufemi Adetunji, University of Pretoria, South Africa  
8:00 – 9:30 (Tuesday)

**Dr. Olufemi Adetunji**  
Senior Lecturer  
Department of Industrial and Systems Engineering  
University of Pretoria  
Pretoria, South Africa

Dr. Olufemi Adetunji is a Senior Lecturer in the department of Industrial and Systems Engineering at the University of Pretoria, Pretoria, South Africa. He earned his Bachelors in Agricultural Engineering and his Masters in Industrial and Production Engineering from the University of Ibadan Nigeria. He also had a Post Graduate Diploma in Computer Science from the University of the Witwatersrand, Johannesburg, and his doctorate in Industrial and Systems Engineering from the University of Pretoria, Pretoria, both in South Africa. He is professionally certified in SCOR-P by the Supply Chain Council, certified in CPIM and CSCP by APICS, certified in SAP ERP systems by SAP, and has a green belt in lean six sigma. He has published several journal and conference papers. Dr. Adetunji has also conducted research and process improvement projects in diverse industries including Finance, Education, Manufacturing and Information Systems. His teaching and research interest is in the application of models to the design and operation of Manufacturing Planning Systems and Supply Chain Engineering.

**ID 386  Acceptance of a new industry work experience reporting platform among students**  
Olufemi Adetunji, University of Pretoria, South Africa

8:30 – 9:00 (Tuesday)

**Ngaka Mosia**  
Junior Lecturer  
Department of Mechanical and Industrial Engineering  
School of Engineering and a College of Science, Engineering and Technology  
University of South Africa (Unisa)  
Gauteng, South Africa

Ngaka Mosia is a Junior Lecturer in the department of Mechanical and Industrial Engineering, in the school of Engineering and a College of Science, Engineering and Technology at the University of South Africa (Unisa), in Gauteng, South Africa. He holds a BSc (Hons) in Applied Science from the University of Pretoria (UP), a BTech in Industrial Engineering from University of Johannesburg (UJ) and post graduate certificate in Distance education from the University of Maryland University College (UMUC). He has conference papers and posters. His reseach interests includes technology mediated teaching and learning and Productivity improvement through mechanization. He is a member of SAIE & IEOM and Nadeosa & DEASA.

**ID 129  Application of quality evaluation tools for learning objects (A technology scorecard report)**  
Ngaka Mosia, Mechanical and Industrial Engineering, University of South Africa (Unisa), Florida, Science Campus, Gauteng, South Africa

9:00 – 9:30 (Tuesday)

**Bontle Tladi**  
Industrial Engineering, BS, MS  
University of the Witwatersrand  
Johannesburg, South Africa

Bontle Tladi has a BSc and MSc in Industrial Engineering from the University of the Witwatersrand (Johannesburg). She has spent 6 years in the petro-chemical industry, working in the areas of general business optimisation and improvement projects, Supply Chain, and the Information and Communication Technology. She has served as a member of the Highveld Special Interest Group (as part of the Southern African Institute for Industrial Engineering); and is also certified in Professional Business Coaching from the Gordon Institute of Business Science. She is currently a Lecturer of Industrial Engineering Design at the University of Witwatersrand. Her research interests include collective impact as well as shared measurement systems for tri-sector partnerships.
9:40 am - Welcome Speaker

10:00 am (Tuesday) - Opening 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

11:30 am (Tuesday) – Keynote: Khaya Master, Subsystem and Maintenance Engineer, Gibela-Rail, South Africa

12:15 am – Keynote: Cobus Oosthuizen, Chief Executive Officer, ESTEQ, Pretoria, Gauteng, South Africa

11:00 - 11:30 - Networking Break

Session II: Global Engineering Education (Room - Spartan 2)
Session Chair: Dr. Michael Mutingi, Namibia University of Science & Technology, Windhoek, Namibia

2:30 – 4:00 pm (Tuesday)

2:30 – 3:00 (Tuesday)

**Dr. Kirti Menon**
Senior Director of Academic Planning, Quality Promotion and Academic Staff Development
University of Johannesburg
South Africa

Dr. Kirti Menon is the Senior Director of Academic Planning, Quality Promotion and Academic Staff Development at the University of Johannesburg and a member of the UJ Senate Ad Hoc Task Team on ‘Decolonisation of Knowledge and Curriculum Reform.’ Prior to this she was Registrar at the University of the Witwatersrand from 2011 to 2013, Acting Deputy Director General: Universities from January 2010 till June 2011 in the Department of Higher Education and Training and Chief Director: Higher Education Planning and Management at the Department of Education from 2008. She worked for the Council on Higher Education between 1999 and 2008. She has served on several national task teams and her research focus is higher education with a focus on access, exclusion and redress.

Gloria Castrillón
Director
Academic Planning and Quality Promotion
University of Johannesburg
South Africa

Gloria has always worked in education, and in higher education since 1994. She has wide-ranging experience of both the private and public sectors and of the regulatory environment. She is currently the Director of the Centre for Academic Planning and Development at the University of Johannesburg.

3:00 – 3:30 (Tuesday)

**Dr. Michael Mutingi**
Associate Professor - Industrial Engineering
Namibia University of Science & Technology
Windhoek, Namibia

Michael Mutingi is a Associate Professor and Coordinator of the Master of Industrial Engineering at the Namibia University of Science and Technology, Namibia. He is also a Senior Visiting Research Associate at the University of Johannesburg, South Africa. He obtained his PhD in Engineering Management from the University of Johannesburg, South Africa. He also holds a MEng and a BEng in Industrial Engineering from the National University of Science and Technology, Zimbabwe, where he served as a Research Fellow and a Lecturer in Industrial Engineering. Michael Mutingi also served as a Research Associate at the National University of Singapore, Singapore, and a Lecturer at the University of Botswana, Botswana. His research interests include fuzzy multi-criteria decision making, simulation, optimization, scheduling, healthcare operations, logistics, and lean. He has published two books with Springer and Taylor & Francis, and more than 95 articles in international journals and conference proceedings. He is a member of the South African Institute of Industrial Engineering (SAIIE) and the International Association of Engineers (IAENG).

3:30 – 4:00 (Tuesday)
Dr. Arno Louw
Senior Specialist: Instructional Design (e-Learning):
Manager: Centre for Academic Technologies Laboratory (CAT Lab)
Division for Academic Development and Support (ADS)
University of Johannesburg
South Africa

Arno Louw is a Teaching and Learning Consultant at UJ. He has been involved in curriculum development and the implementation of computer courses involving the integration, application, implementation and evaluation of courses encompassing computer-based education. Arno was involved in projects at UJ (previously RAU) since 1998 and was also co-author and researcher of computer-based textbooks for the Gauteng Department of Education. Research and course development included the training of educators, subject facilitators, presentation and implementation of research as well as publications and presentations of papers on the implementation of web-based education in the school system. During this period, he was an educator at Metropolitan RAUCALL and a part-time lecturer at the University of Johannesburg. He holds a master's degree with the focus on web-based education and doctoral degree in the same field.

4:00 - 4:30 Networking Break

Session III: **Global Engineering Education (Room - Spartan 2)**
Session Chair: Prof. Clinton Aigbavboa, University of Johannesburg, Johannesburg, RSA

4:30 – 5:00 (Tuesday)

**Dr. William Msekiwa Goriwondo** (PhD, FZ’weIE, Pr.Eng., MIoDZ)
Executive Dean
Faculty of Industrial Technology
National University of Science and Technology (NUST)
Zimbabwe

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

Dr. WM Goriwondo is a registered Professional Engineer with an MSc. degree in Manufacturing Systems & Operations Management as well as a Doctor of Philosophy (PhD) degree. He has a proven track record of technical, operational and strategic leadership, spanning over 20 years. Currently the Executive Dean of the Faculty of Industrial Technology at the National University of Science and Technology (NUST), a Senior Lecturer, Researcher and an Engineering & Management Consultant. Member of the Institute of Directors Zimbabwe (IoDZ), Fellow and Board member of the Zimbabwe Institution of Engineers (ZIE). He is an experienced Project Manager and team player with advanced strategic planning skills. A published researcher with over 10 peer reviewed journal papers, 40 peer reviewed papers in conference proceedings and several other technical newspaper articles. He is a passionate leader in manufacturing excellence, resource utilization and World Class Manufacturing (WCM).

**Abstract:** Engineering education is important in providing solutions to problems that face humankind. Zimbabwe has gone through a period of economic decline characterised by myriad of challenges, some of which requires engineering solutions. It is only when the quality of engineers from educational institutions is of high quality, that any such problems can be resolved. This paper presents the journey that the National University of Science and Technology (NUST) in Zimbabwe took towards improving engineering education. A two year project sponsored by the Royal Academy of Engineering (RAE), UK, saw NUST as a hub institution in Sub-Saharan Africa working with several spoke institutions in both Industry and Academia. The project sought to develop and strengthen relationships between academia and industry through secondment programmes to bridge skills and knowledge deficiencies. This was achieved through secondment of junior lecturers to industry, as well as skilled industrial players to the NUST. Knowledge sharing and skills transfer was achieved during this project, ultimately leading to improved engineering education. Relevance of engineering programmes at the NUST was also reviewed and improvements implemented. This will result in sustainable engineering educational changes and industry ready engineers. Important networks were established and these are key to sustainability.

5:00 – 5:30 (Tuesday)

Mohammad Sarwar Morshed, PhD
Professor of Industrial and Production Engineering
Department of Mechanical and Production Engineering
Ahsanullah University of Science and Technology (AUST)
Dhaka, Bangladesh

Dr. Sarwar Morshed is a Professor of Industrial and Production Engineering at the Faculty of Engineering, Ahsanullah University of Science and Technology (AUST). He started his academic career in Chittagong University of Engineering and Technology (CUET) in early 90s after receiving his undergraduate degree in Mechanical Engineering. He received his Masters in Industrial Management from the Centre for Industrial Management of Katholieke University of Leuven, Belgium and received his PhD in Manufacturing and Mechanical Engineering from the Birmingham University, UK on Optimization and Scheduling. He worked in the Birmingham University as PhD researcher before his post-doctoral research in Coventry and Bath University. He also served as a visiting academic at Bath University and affiliated
as a visiting research fellow at Aalborg University, Denmark. He has published 20 articles in several journal and conferences. He has been working as a Senior Researcher and Deputy Project Leader of Aalborg-AUST Research Project (POHS-BD) and collaborative work among AUST, Aalborg University and BGMEA since 2015. A sustainable maturity model has been developed by integrating lean and OHS for intervention process in RMG industries. He also developed Multi-objective knowledge based scheduling techniques using genetic algorithm (GA) for cancer patients in dynamic situation along with his hybrid GA framework for industrial and service scheduling. Prof Morshed has affiliations with HEA (UK), OR Society, IEOM Society and IEB.

Presentation Title: Synergies of OHS and Productivity Improvement in RMG Industries – An Outcome of Intervention Process

Abstract: The overall aim and objective of readymade garments (RMG) is to improve the productivity and competitiveness of RMG industry in Bangladesh while simultaneously improving OHS and ergonomic conditions. In order to reach this objective the research strives towards gaining new knowledge about the dynamics among the major stakeholders in respect to co-development of sustainable OHS and productivity advancements. This research has identified the positive synergies between productivity and OHS conditions after analysing baseline data collected from fifty RMG industries. The Lean and OHS model for the sustainable productivity improvement are developed for the intervention process has been implemented in twelve RMG industries with positive outcomes as expected. The last phase of baseline data collection process is in progress to make a final comparison between intervening and on no-intervening industries in the journey of ensuring sustainable productivity. The research capacity in Bangladesh is strengthening by initiating and institutionalizing this novel research domain which eventually applicable to many countries.

5:30 – 6:00 (Tuesday)

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 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.

Wednesday (October 31, 2018)

Session IV: Global Engineering Education (Room - Spartan 2)
Session Chair: Deborah Oluwafunke Adedokun, Joseph Ayo Babalola University, Ikeji-Arakeji, Nigeria

8:00 – 9:30 am (Wednesday)

8:00 – 8:30 (Wednesday)
TBA

8:30 – 9:00 (Wednesday)

Dr. Imad Alsyouf
Associate Professor
Sustainability Office, Director
Industrial Engineering & Engineering Management Department
College of Engineering
University of Sharjah
United Arab Emirates (UAE)

Imad Alsyouf is an associate professor of Industrial Engineering at University of Sharjah (UoS), UAE. He is the director of the Sustainability Office and the founder and coordinator of Sustainable Engineering Asset Management (SEAM) Research Group at UoS. He received his doctorate in Maintenance Engineering from Linnaeus University, Sweden, in 2004. He has 27 years of industrial and academic experience, and his research interests include reliability, quality and maintenance engineering, lean production, productivity improvement, performance measurement, life-cycle cost analysis, and optimisation. He has developed and taught more than 25 post- and undergraduate courses covering a wide range of IEEM fields.

Sadeque Hamdan is a research assistant in the Sustainable Engineering Asset Management (SEAM) research group at University of Sharjah, UAE. He obtained his Master of Science degree in Engineering Management in 2015 and his Bachelor of Science degree in Civil Engineering degree in 2013 from University of Sharjah. His current research focuses on optimization, supply chain management, logistics, air traffic management, and multi-criteria decision making.
Maitha Alsuwaidi obtained her Master of Science degree in Engineering Management in 2017 from University of Sharjah, UAE.

Mohammad Shamsuzzaman is an associate professor in the Department of Industrial Engineering and Engineering Management at University of Sharjah, UAE. He obtained his doctorate in Systems and Engineering Management in 2005 from Nanyang Technological University, Singapore. His current research focuses on quality control and improvement, reliability, simulation, and multi-criteria decision making. He is a member of the American Society for Quality.

ID 416 Monitoring and Assessing the Impact of Implementing ISO 55000 in an Educational Institute
Sadeque Hamdan, Sustainable Engineering Asset Management (SEAM) Research Group
Maitha Alsuwaidi, Department of Industrial Engineering and Engineering Management, University of Sharjah, Sharjah, 27272, UAE
Imad Alyouf and Mohammad Shamsuzzaman, Sustainable Engineering Asset Management (SEAM) Research Group
Department of Industrial Engineering and Engineering Management, University of Sharjah, Sharjah, 27272, UAE

9:00 – 9:30 (Wednesday)

Deborah Oluwafunke Adedokun
Lecturer
Department of Building & Quantity Surveying
College of Environmental Sciences
Joseph Ayo Babalola University
Ikeji-Arakeji, Nigeria

ADEDOKUN, D.O. is a Lecturer at the Department of Building and Quantity Surveying, College of Environmental Sciences, Joseph Ayo Babalola University, Ikeji-Arakeji, Nigeria. She is currently a Ph.D student in the Department of Quantity Surveying, School of Environmental Technology, Federal University of Technology, Akure, Nigeria. She is a researcher per excellence as her publications cuts across referred journals at local and international outlets while her contributions to conference proceedings cannot be overemphasized. She is also affiliated to GBM Konsult Associates, a firm offering Quantity Surveying and Project management services, on construction projects.

ID 064 Influence of the Consultants Related Factors on the Performance of Selected Tertiary Educational Building (TEB) Projects in Nigeria
Deborah Oluwafunke Adedokun, Department of Building & Quantity Surveying, College of Environmental Sciences, Joseph Ayo Babalola University, Ikeji-Arakeji, Nigeria

9:40 - 10:20 (Wednesday): Keynote: Professor Angina Parekh, Deputy Vice Chancellor: Academic, University of Johannesburg, South Africa and Former Special Advisor on Higher Education to the Minister of Education

10:20 - 11:00 (Wednesday): Keynote: Dr. Abu Masud, P.E., Boeing Global Engineering Professor Emeritus, Professor of Industrial and Manufacturing Engineering, Wichita State University, Kansas, USA – “Student Learning: Assessment and Improvement”

11:00 - 11:30 Networking Break

11:30 - 12:15 (Wednesday) Keynote: Arthur Mutambara, Former Deputy Prime Minister of Zimbabwe, Visiting Full Professor - University of Johannesburg

12:15 - 1:00 (Wednesday) Keynote: Dr. AAA. Atayero, Vice Chancellor, Covenant University, Ota, Ogun State, Nigeria

1:00 - 2:30: Networking Lunch Buffet

Session VI: Global Engineering Education (Room - Spartan 2)
Session Chair: Matimba Mkansi, University of the Witwatersrand, Johannesburg, South Africa
2:30 – 4:00 pm (Wednesday)

2:30 – 3:00 (Wednesday)
Didier ILUNGA
Researcher
Civil Engineering
University of Johannesburg
South Africa

Didier ILUNGA has:
• A Senior Matric Certificate as a Mechanical Turner from Salama Technical College (D R Congo),
• A Bachelor Degree of Applied Science in Mining Engineering from University of Lubumbashi (D R Congo),
• A Bachelor Degree of Engineering in Mining Engineering From University of Lubumbashi (D R Congo) and
• A Master's Degree of Engineering in Civil Engineering at University of Johannesburg (RSA).

He is currently registered as a PhD Candidate in Civil Engineering at University of Johannesburg (RSA). His area of interest includes the Effect of Pressure on Leakage in Water Distribution Systems where he is investigating the “The Effect of Pipe Material on the Behaviour of Water Leakage through Longitudinal Cracks in Pressurised Pipes”. Didier Ilunga has spent 10 years at Rand Water (Johannesburg) as a Project Manager and Currently He is been given the responsibility of a Senior Pipeline Engineer in Pipeline Assets, where he has demonstrated a strong background in the following areas:

• Understanding of the behaviour of pressurised pipelines,
• Knowledge and understanding of pipeline water leakage,
• Pressure management and water loss reduction in water distribution systems.
• Knowledge of pipeline condition assessment,
• Knowledge of pipeline behaviour under different conditions and mechanical of materials,
• Pipeline design and stresses generated by internal pressure concepts.

Didier Ilunga is member of SAICE, and processing his registration as Professional Engineer with ECSA. He does speak fluently French, English and Swahili.

ID 056  Experimental Investigation of Water Leakages through a Longitudinal Crack due to Expansion of the Pipe Material under Pressure.
D. Ilunga, M.O. Dinka and D. Madyira, University of Johannesburg, South Africa.

3:00 – 3:30 (Wednesday)

Jonathan Mkansi, Hannelie Nel and Annlizé Marnewick
Post-Graduate School of Engineering Management
Faculty of Engineering and the Built Environment
University of Johannesburg
Auckland Park, South Africa

Jonathan Mkansi is currently a fulltime employee as Sales Engineer at Foseco South Africa in the Sales and Marketing department. Mr. Mkansi holds Bachelor of Technology degree in Engineering Metallurgy, Bachelor of Technology degree in Quality Management, Masters of Philosophy in Engineering Management all from the University of Johannesburg. In 2017 he completed an inhouse sales course; Selling by Objectives which focused on combining technical skills to improve processes at customers while helping the local foundry industry. This programme was offered by Mercuri International. Mr. Mkansi has 9 years working experience where he worked as a Metallurgist in the Aluminum rolling company in Pietermaritzburg, a Technical Specialist in the steel tube making company in Alirode and a Sales Engineer for a foundry consumables supplier in Alirode. Mr. Mkansi is a member of the South African institute of Foundrymen where technical presentations and discussions take place every month in an effort to help foundries conduct business differently and compete globally.

Professor Annlize Marnewick is an Associate Professor at the Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg where she focuses on the supervision of research master’s and doctoral students. Before joining the academia she has been involved in the industry with a technical record of 15 years in architecture, design and the implementation of system and software engineering projects with specialisation in requirements engineering. She is a registered professional engineer (Pr Eng) with the Engineering Council of South Africa (ECSA).

Dr. Hannelie Nel
Senior Lecturer
Postgraduate School of Engineering Management
Faculty of Engineering and the Built Environment
University of Johannesburg
South Africa

Dr Hannelie Nel is a Senior Lecturer at the Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg. She holds a Doctorate in Engineering Management with twenty years’ experience in both industry and academia. Dr Nel is a Fellow of the Southern African Society for Industrial Engineering and currently serves on the Boards of Denel and the Society for Engineering Education. She is an Associate Member of the Institute of Directors in South Africa; and a Member of the International Women’s Association.

ID 99  Lack of Training Opportunities in South African Foundries and the Impact on the Number of Engineering Metallurgy Graduates
Jonathan Mkansi, Hannelie Nel and Annlizé Marnewick, Post-Graduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa
3:30 – 4:00 (Wednesday)

Matimba Mkansi
Industrial Engineering
University of the Witwatersrand
Johannesburg, South Africa

Matimba Mkansi is a Masters student in Industrial Engineering at the University of the Witwatersrand, Johannesburg. He holds a Bachelor of Science degree in Industrial Engineering from the same University. His honors research project, whose extension is this paper, focused on researching on the concept of decolonisation as applicable to engineering education.

Chioniso Kuchwa-Dube
Lecturer
School of Mechanical, Industrial and Aeronautical Engineering
University of the Witwatersrand
Johannesburg, South Africa

Chioniso Kuchwa-Dube is a lecturer within the School of Mechanical, Industrial and Aeronautical Engineering at the University of the Witwatersrand. Her main research interest is in the design and control of intelligent autonomous robots for various applications including manufacturing. She is also interested in engineering curriculum transformation.

Bruno Emwanu
Senior Lecturer
University of the Witwatersrand
Johannesburg, South Africa

Bruno Emwanu is a Senior Lecturer at the University of the Witwatersrand, Johannesburg. He lectures Industrial Engineering courses including Manufacturing Strategy, Business Studies and Business Management. His research interest are in Manufacturing Strategy primarily and linkages involved. He supervises research students, including Masters and PhD students, in a wide range of topics including manufacturing strategy, business strategy, supply- chain management among others.

ID 299 The concept of Decolonisation within Engineering Education
Matimba Mkansi, Bruno Emwanu and Chioniso Kuchwa-Dube, School of Mechanical, Industrial and Aeronautical Engineering, University of the Witwatersrand, Johannesburg, South Africa

4:00 - 4:30 pm: Networking Break

Session VII: Global Engineering Education (Room - Spartan 2)
Session Chair: Christian Amaechi Bolu, Covenant University, Ota, Nigeria
4:30 – 6:00 pm (Wednesday)

4:30 – 5:00 (Wednesday)

Dr. Imad Alsyouf
Associate Professor
Sustainability Office, Director
Industrial Engineering & Engineering Management Department
College of Engineering
University of Sharjah
United Arab Emirates (UAE)

Imad Alsyouf is an associate professor of Industrial Engineering at University of Sharjah (UoS), UAE. He is the director of the Sustainability Office and the founder and coordinator of Sustainable Engineering Asset Management (SEAM) Research Group at UoS. He received his doctorate in Maintenance Engineering from Linnaeus University, Sweden, in 2004. He has 27 years of industrial and academic experience, and his research interests include reliability, quality and maintenance engineering, lean production, productivity improvement, performance measurement, life-cycle cost analysis, and optimisation. He has developed and taught more than 25 post- and undergraduate courses covering a wide range of IEEM fields. Sadeque Hamdan is a research assistant in the Sustainable Engineering Asset Management (SEAM) research group at University of Sharjah, UAE. He obtained his Master of Science degree in Engineering Management in 2015 and his Bachelor of Science degree in Civil Engineering degree in 2013 from University of Sharjah. His current research focuses on optimization, supply chain management, logistics, air traffic management, and multi-criteria decision making. Maitha Alsuwaidi obtained her Master of Science degree in Engineering Management in 2017 from University of Sharjah, UAE.
ID 420 Using Six-Sigma DMAIC Methodology to Systematically Improve the Performance of Physical Plants at an Educational Institute
I. Alsyouf, A. Salti, B. Hamed, A. Abdelsalam, Department of Industrial Management and Engineering Management, University of Sharjah, Sharjah, UAE

5:00 – 5:30 (Wednesday)

Dr. Joe E. Amadi-Echendu
Professor, Engineering and Technology Management
University of Pretoria, South Africa
Director, Institute of Engineering Technology and Innovation Management, UNIPORT
Editor-in-Chief, Engineering Asset Management Review Series, Spring, UK

Joe Amadi-Echendu earned BS and MS degrees in Electrical and Electronic Engineering from University of Wyoming, USA, and DPhil in Control Engineering from University of Sussex, UK. Dr Joe currently serves as a Professor of Engineering and Technology Management at University of Pretoria, Republic of South Africa. He is the founding Director of the Institute of Engineering, Technology and Innovation Management at University of Port Harcourt in Nigeria.

Prof Amadi-Echendu commenced his career as an apprentice maintenance technician at a tyre manufacturing plant, and his expertise is underpinned by his doctoral research in digital signal processing, condition monitoring and diagnostic engineering management of physical plants and processes. He has over 12 years industry work experience, as well as 20+ years academic experience in USA, UK, Nigeria and South Africa. His extensive experience and interests cover the broad fields of engineering and technology management with particular emphasis on the management of intellectual assets, engineering technologies, plant, equipment and infrastructure assets. While working in industry, Dr Joe primarily implemented “operational readiness” programmes for green field capital development projects in petrochemical and mining sectors. His current teaching and research activities are focused on engineering asset management and technology commercialisation, as well as supervision, mentoring and coaching to all grades of students and technology-based business start-ups. Prof Amadi-Echendu has published over 150 articles in journals and accredited international conference proceedings. Joe’s involvement in community development, professional and scholarly activities has been recognised through many local, national and international awards such as best paper, distinguished service, excellence, and leadership awards.

Joe is registered as a professional engineer in both the UK and South Africa. He continues to provide consulting advice and training to both private business and public sector organisations. In addition to external examination of master and doctoral degree dissertations at local and overseas institutions, and review of manuscripts for a number of journals, Prof Amadi-Echendu’s concurrent roles and scholarly activities include; (i) editor-in-chief for Springer’s Engineering Asset Management Review Series, ii) founding fellow, board member and director of International Society of Engineering Asset Management (ISEAM), iii) member of board of directors of the International Association for the Management of Technology (IAMOT), iv) member of technical panels of long standing international conferences namely, COMADEM, IAMOT, PICMET, and WCEAM, and v) ‘Experienced Researcher’, EU grant funded H2020-MSCA-RISE Sustain Owner Project 645733.

5:30 – 6:00 (Wednesday)

Professor Christian Amaechi Bolu, FNSE, FAEng
Dean, College of Engineering
Covenant University, Ota, Nigeria

Professor Christian Amaechi Bolu, graduated with B,Sc in Mechanical Engineering from University of Nigeria, Nsukka in 1976, M.Eng in Industrial Engineering from University of Toronto, Canada in 1979 and Ph.D in Industrial and Systems Engineering from University of Wales, Swansea, United Kingdom in 1982. Prof Bolu, a professor of Mechatronics Engineering, is a practicing engineer with engineering industry work experience spanning over 27 years. He ran several multi-national engineering companies in Nigeria, Ghana and Kenya at top technical and management levels. He was instrumental to setting up of the first CNC wire-cutting machine in Nigeria, in the late 1980s as well as the first automated powder coating plant in Nigeria. He was the developer of one of the early Enterprise Resource Planning solutions widely used in engineering manufacturing plants in Nigeria, Ghana and Kenya.

Prof Bolu, a Fellow of the Nigerian Academy of Engineering, Fellow of both the Nigerian Society of Engineers and Nigerian Institution of Industrial Engineers was a one-time Chairman of the Nigerian Society of Engineers (Lagos Branch), National Technical Secretary of the Nigeria Society of Engineers and President of the Nigerian Institution of Industrial Engineers. He is an SAP Certified Solution Consultant. His present special interest area is in Mechatronics System Design for community development, Internet of Things (IoT) and Rapid Prototyping. He is presently the Dean, College of Engineering, Covenant University, Ota, Nigeria, after serving as pioneer Dean, Faculty of Engineering, Federal University Oye-Ekiti, Nigeria from 2012-2015.

Thursday (November 1, 2018)

Session VIII: Global Engineering Education (Room - Spartan 2)
Session Chair: John Ikome, Vaal University of Technology, South Africa
8:00 – 9:30 am (Thursday)
Dr. Anthea Amadi-Echendu
Senior Lecturer
Acting Chair of the Department of Operations Management
University of South Africa

Anthea Amadi-Echendu is a senior lecturer at the University of South Africa. She is Acting Chair of the Department of Operations Management. She holds a Master of Commerce degree from the University of South Africa and a Doctor of Philosophy degree from the University of Pretoria. Anthea has presented various national and international conference papers and published several journal papers. She holds directorships of the Society of Operations Management in Africa (SOMA) and Destiny Environmental and Infrastructure Development (Pty) Ltd. Anthea is also a founder member of SOMA. She has more than 15 years’ industry experience on various levels.

8:30 – 9:00 (Thursday)

John Ikome
Lecturer, Department of Industrial Engineering and Operation Management
Vaal University of Technology
South Africa

Mr. John Ikome is a lecturer in the Department of Industrial Engineering and Operation Management at the Vaal University of Technology, South Africa. He earned his National Diploma and Bachelors in Industrial Engineering (B-Tech) from the Vaal University of Technology South Africa and his Masters in Industrial Engineering, specialization (Technology Management) from the Tshwane University of Technology Pretoria, and currently pursuing his PhD (Deng) Industrial Engineering with Tshwane University of Technology, where he is trying to develop a Competitive model to enhance the South African Automotive Industries Global competitiveness. He also has a number of qualifications within the Mechanical Engineering Field, specialization in Automotive Systems from London and Lean manufacturing certification. He is a member of the Southern African Institute of Industrial Engineering (SAIIE). John Ikome has also conducted extensive research in productivity and continuous improvement within the manufacturing field in which he developed a number of models to improve manufacturing systems after unforeseen disruption. He is a member and a reviewer of a number of international conference and journal and has also published extensively a number of journal and conference papers around the world. His main interest in research is manufacturing and continues improvement.

9:00 – 9:30 (Thursday)

9:30: Keynote (Thursday): Dr. Sundaravalli Narayanaswami, Indian Institute of Management, Ahmedabad, India

10:15: Keynote (Thursday): Dr. Eugén Ranft, Operations Manager, Eaton Electric (South Africa) (Pty) Ltd, Johannesburg, South Africa

11:00 - 11:30: Networking Break

Session IX: Global Engineering Education (Room - Spartan 2)
Session Chair: Thomas Tengen, Vaal University of Technology (VUT), South Africa
11:30 am – 1:00 pm (Thursday)

11:30 – 12:00 (Thursday)

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

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

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


He has also reviewed numerous journals such as the Taylor and Francis Journal of Production Research, Elsevier Journal of Manufacturing Systems, and McMillan Journal of Technology. He is the author of over 70 publications in conferences, journals and book chapters. Graduated two doctoral students and twelve masters students. Through his efforts and his team he, has registered 3 patents to date, which are at various stages for development for commercialisation.

Prof Mpfou’s field of expertise and research specialisation is Industrial Engineering with the focus on advanced manufacturing technologies, knowledge based systems and robotics applications in Manufacturing

Skills development is a challenge in the South African landscape, further skills in science, technology, engineering and mathematics is a global problem. This chair will seek to be a catalyst in revitalising the rail commuter coach manufacturing focusing on engineering and the related sectors to propel rail as a preferred commuter transport mode. Technical skills, running of technical business and development of localised technologies will bring about a revamp of the contribution of manufacturing sector to the GDP and also result in sustainable employment and black owned Small, Micro & Medium Enterprise development.

12:00 – 12:30 (Thursday)

Prof. John Alfred Trimble
Professor, Department of Industrial Engineering
Tshwane University of Technology (TUT)
Pretoria, South Africa

Professor John Trimble is currently serving as a Flagship professor with a joint appointment in Tshwane University of Technology’s Operations Management and Industrial Engineering. Departments. From 2015 through 2016, he served as a Fulbright professor in Industrial Engineering. He holds a BSc in Engineering from Northwestern University, MSC in Computer Science from Stanford University, MSc in Operations Research from University of California, Berkeley and a PhD in Industrial and Systems Engineering from Georgia Institute of Technology /USA.

Trimble has over 25 years of teaching experience at various universities in the USA, Zimbabwe, Rwanda and South Africa. He has served as Head of Department and Dean of ICT. Prior to joining the academy, Trimble worked in industry as a researcher, software developer and manager. Over the past 15 years, Trimble has been heavily involved with research and projects concerning the use of ‘appropriate technology’. He has led in the organizing of 8 international conferences on appropriate technology, held across Africa in Zimbabwe, Rwanda, Ghana, South Africa, Benin and Kenya.

12:30 – 1:00 (Thursday)

Prof. Thomas Tengen
Associate Professor and Head
Department of Industrial Engineering and Operations Management
Vaal University of Technology (VUT), South Africa

Thomas B. Tengen is an Associate Professor and Head of Industrial Engineering & Operations Management Department at Vaal University of Technology (South Africa). Prof TB Tengen is also a C3 Rated Researcher by the NRF. He earned his BSc (Hons) in Mathematics with Minor in Physics and Computer Science from the University of Buea (Cameroon). He proceeded to do his MSc in Physics at the same University of Buea (Cameroon) with a Mini Dissertation of Alternative Specifications and Mechanics of Wind-Charger Type Brake. He obtained his PhD in Engineering from the University of the Witwatersrand in Johannesburg (South Africa) while researching on the Application of the Stochastic Principles in the Design of Nanomaterials Mechanical Properties and Design of Nanotechnology. His general research deals with the application of the Stochastic Theory and Stochastic Principle in designing engineering system and addressing engineering (system) problems. He has published widely both in conference proceedings and in journals. He is currently developing three patents.

1:00 - 2:30 Networking Lunch Buffet
Session X: **Global Engineering Education (Room - Spartan 2)**  
**Session Chair:** Dr. Grace Mukondeleli Kanakana – Katumba, University of South Africa (UNISA)  
**2:30 – 4:00 pm (Thursday)**

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

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.

3:00 – 3:30 (Thursday)

**Ms. Sebonkile Thaba**  
Lecturer and Community Engagement Coordinator  
Department of Transport and Supply  
University of Johannesburg, South Africa

Sebonkile C. Thaba, is currently a lecturer and community engagement coordinator in the Department of Transport and Supply. Sebonkile is studying towards Doctoral Degree at the University of Johannesburg (UJ). She is awarded Academic Doctorate Advancement Project towards Transformation (ADAPTT) Scholarship, which is the collaboration of United State and South Africa Higher Education (SA-HE) Network. She serves as the president of Industrial Engineering and Operations Management, (IEOM) UJ Student Chapter. She has 21 conference papers and two-book chapters published. Her research interest are Sustainable Supply Chain Management, Life Cycle Assessment, Enterprise development and Sustainable Transport (renewable energy).

3:30 – 4:00 (Thursday)

**Dr. Grace Mukondeleli Kanakana – Katumba**  
Deputy Executive Dean  
College of Science, Engineering and Technology  
University of South Africa (UNISA)  
Unisa Science Campus  
Florida, Gauteng, South Africa

Dr. Grace Mukondeleli Kanakana – Katumba is a Deputy Executive Dean of College of Science, Engineering and Technology at University of South Africa (UNISA), Unisa Science Campus, Florida, Gauteng, South Africa. She was an Assistant Dean of the Faculty of Engineering and Built Environment at Tshwane University of Technology. Dr. Kanakana – Katumba was head of the Industrial Engineering Department at Tshwane University of Technology. She earned her B-Tech industrial from the University of Technology South Africa, Masters in Business administration from Nelson Mandela University, and PhD in Engineering Management from University of Johannesburg, South Africa. Dr. Kanakana – Katumba has published journal articles and conference papers pertaining to need areas from an industrial engineering perspective. She has carried out research studies with various research institutes and universities within South Africa and beyond. Her research interests include manufacturing, quality, benchmarking, optimization, project management, and lean six sigma. She is a member of local and international professional organizations. Dr. Kanakana – Katumba is serving as a conference chair of the 2018 IEOM South Africa Conference.

4:00 - 4:30: Networking Break

Session XI: **Global Engineering Education (Room - Spartan 2)**  
**4:30 – 6:00 pm (Thursday)**
Workshop on Entrepreneurship

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

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.
Conference Committee

Conference Chairs
Dr. Bolanle Tolulope Abe, Tshwane University of Technology (TUT), South Africa
Prof. Mukundelee Grace Kanakana, University of South Africa (UNISA)
Prof. Charles Mbohwa, University of Johannesburg (UJ)
Prof. Khumublani Mpofu, Tshwane University of Technology (TUT)
Prof. John Alfred Trimbile, Tshwane University of Technology (TUT)
Prof. Thomas Tengan, Vaal University of Technology (VUT)
Prof. Sarma Yadavalli, University of Pretoria (UP)

General Chair
Dr. Abdur Rahim, University of New Brunswick at Fredericton, Canada

Honorary Chair
Dr. Abu Masud, Professor Emeritus, Industrial and Manufacturing Engineering, Global Engineering Education Chairs

Global Engineering Education Chairs
Dr. Abu Masud, Professor Emeritus, Industrial and Manufacturing Engineering Department, Wichita State University, USA
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Systems Dynamics
Mahdi Bastan, University of Eysanekey, Garmars, Iran

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Submissions Received from Countries and Territories

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Bahrain  Finland  Kenya  Pakistan  Uganda
Bangladesh  France  Kuwait  Paraguay  UAE
Botswana  Germany  Malaysia  Senegal  United Kingdom
Brazil  Ghana  Mauritius  South Africa  United States
China  India  Morocco  Thailand  Zimbabwe
Colombia  Indonesia  Namibia  Trinidad & Tobago
Distinguished Speakers – Industry Solutions

Thursday, October 30, 2018

Session I: Industry Solutions
Session Chair: Professor Arnesh Telukdarie, University of Johannesburg, South Africa
8:00 – 9:30 am (Tuesday) – Room Spartan 3

8:00 – 8:30 (Tuesday)
Professor Arnesh Telukdarie, P.E.
Associate Professor in Engineering Management
University of Johannesburg, South Africa

Professor Arnesh Telukdarie holds a Doctorate in Chemical Engineering and is a registered Professional Engineer. Prof Telukdarie is an Associate Professor in Engineering Management at the University of Johannesburg, South Africa. Prof Telukdarie current research interest are in Industry 4.0, specifically business optimization, shop floor to top floor. Specific research and publications on architecture, modelling and contemporary techniques. Prof Telukdarie has held various senior management positions in industry including the petrochemical multination’s. Current industry research in Industry 4.0 and water, mining, aerospace, rail, energy and multinationals.

ID 359      An Industry 4.0 Research Review for the Pulp and Paper Industry
Telukdarie and A Kumar, Department of Engineering Management, University of Johannesburg, South Africa

8:30 – 9:00 (Tuesday)
George F. Mukwawaya
Postgraduate Researcher
University of the Witwatersrand
Johannesburg, South Africa

George F. Mukwawaya is a Masters student at the University of the Witwatersrand, Johannesburg. He is currently working on a research centered on entrepreneurship and new product development in the digital innovation space. Mr. Mukwawaya earned a BSc Eng. (Industrial) from the same institution after which he worked in manufacturing and automotive industries. His research interests include entrepreneurship, new product development and manufacturing.

Bruno Emwanu
Senior Lecturer, University of the Witwatersrand, Johannesburg, South Africa

Bruno Emwanu is a Senior Lecturer at the University of the Witwatersrand, Johannesburg. He lectures Industrial Engineering courses including Manufacturing Strategy, Business Studies and Business Management. His research interest are in Manufacturing Strategy primarily and linkages involved. He supervises research students, including Masters and PhD students, in a wide range of topics including manufacturing strategy, and supply chain management among others.

Sibusiso Mdakane
Lecturer and Postgraduate Researcher, University of the Witwatersrand, Johannesburg, South Africa

Sibusiso Mdakane is a post graduate student and lecturer at the University of the Witwatersrand, Johannesburg. He teaches Operations Management and Industrial Engineering Design in the Industrial Engineering curriculum. Sibusiso is an experienced management consultant and has experience in supply chain management. His research interests include entrepreneurship, small business development in advanced manufacturing, industrialisation and industrialisation policy.

ID 298      Assessing the readiness of South Africa for Industry 4.0 – Analysis of government policy, skills and education
George F. Mukwawaya, Bruno Emwanu and Sibusiso Mdakane, School of Mechanical, Industrial and Aeronautical Engineering, University of the Witwatersrand Johannesburg, South Africa

9:00 – 9:30 (Tuesday)
Uduakobong E. Ekenyong
Electrical Engineer, Senior Consultant in the Asset Management Unit
Aurecon, South Africa

Uduak is an electrical engineer working in Aurecon as a Senior Consultant in the Asset Management Unit where she interacts with clients to unlock the potential of the assets to enhance their business. Her areas of specialization include electricity distribution and transmission, demand side management and energy efficiency. She is also proficient in asset management and information transmission within connected networks. Uduak has a passion for understanding the electricity needs of the people where electricity supply is scares. She is also a trained design led thinking facilitator where she works with clients to look at the issues from a human-centered perspective. In other professional capacity, she is currently the chairperson of Women in Engineering (WIE) at the Institute of Electrical and Electronics Engineers (IEEE) South African Section, a registered candidate engineer at the Engineering Council of South Africa, and a student member at the South African Institute of Electrical Engineers (SAIEE). She believes in not just succeeding for herself, but others need to achieve their dreams too. She is versatile in her approach in contributing to humanity through her engineering contribution. Coordinate professional events for
women to meet and share experiences and professional tips for growth. Encourage high school girls and boys to pursue a career in STEM in collaboration with other student affinity groups. Served as a senior research associate at University of Johannesburg (moderating the exams and marking masters and undergraduate thesis). Uduak obtained her Doctor of Philosophy degree in Electrical Engineering at the University of Pretoria in South Africa; and a Master of Science degree in Applied Sciences (Electrotechnics) from the University of Pretoria in South Africa and a double Bachelor's degree in Electrical and Electronics from Igbinedion University Okada in Nigeria.

Session II: Industry Solutions

2:30 pm – 6:00 pm (Tuesday) – Room Spartan 3

Women in Industry and Academia (WIIA) Panel Session

Panel Chair: Dr. Nita Sukdeo, University of Johannesburg, South Africa

Panel Speakers

Dr. Nita Sukdeo
Full time senior lecturer in Quality and Operations Management
BTech Quality Programme Manager
Department of Quality and Operations Management
University of Johannesburg
Gauteng, South Africa

Dr. Nita Sukdeo is currently a full time senior lecturer in the field of Quality and Operations Management, and the BTech Quality programme manager, in the Department of Quality and Operations Management, at the University of Johannesburg, Gauteng, South Africa. She obtained a Masters in Quality from the Durban University of Technology and a PhD in Engineering Management from the University of Johannesburg. She is an emerging young researcher in the field of total quality management and operations management. Her field of expertise also include quantitative analysis, quality management systems, quality auditing and risk assessment. She is a qualified Lead Auditor, proficient in ISO standards and certification. She is one of the directors of the Society for Operations Management in Africa (SOMA), as well as a professional member of the South African Society for Quality (SASQ).

Dr. Hannelie Nel
Senior Lecturer, Postgraduate School of Engineering Management
Faculty of Engineering and the Built Environment
University of Johannesburg
South Africa

Dr. Hannelie Nel is a Senior Lecturer at the Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg. She holds a Doctorate in Engineering Management with twenty years' experience in both industry and academia. Dr Nel is an Honorary Fellow of the Southern African Society for Industrial Engineering and currently serves on the Boards of Denel and the Society for Engineering Education. She is a registered professional engineer with the Engineering Council of South Africa; an Associate Member of the Institute of Directors; and a Member of the International Women's Association.

Eveth Nkeiruka Nwobodo-Anyadiegwu
Lecturer
Faculty of Engineering and Built Environment
University of Johannesburg
South Africa

Eveth Nkeiruka Nwobodo-Anyadiegwu is a lecturer and doctoral student at the Faculty of Engineering and Built Environment, University of Johannesburg, South Africa. She holds the following degrees BSc. Hons. Management, B.Engr Hons., MBA (Management) from the University of Nigeria. Her research interests are in Continuous Improvement in Service Operations, Operations Research, Project Management, and Engineering Education and have published more than 12 academic papers.

Yvette Shibambo
Senior Project Manager
Eskom - Enterprise Division
Witbank Area, South Africa

Yvette Thandekile Shibambo is currently a senior manager at Eskom, and is responsible for the Delivery of the Balance of Plant at Kusile Power Station Project. Her responsibility if to ensure that the following plant: Coal plant, Ash plant, Limestone handling plant, Flue Gas Desulphurization plant, Water Treatment plant and Waste Water treatment plant are delivered on time to support the 6 Units. She has been with Eskom for 17 years. She joined Eskom as bursar and grew up within the ranks. She holds a BSc (Mathematics) and Postgraduate Diploma in (Engineering) from Pretoria University, and an MSc (Engineering) from the University of Warwick. She is a sought after Conference speaker, who has written and presented papers on local and international stages. She chairs Project Management Conferences and is in the process of writing her 1st book on building Mega Projects.
Dimakatso Lesabe
Head: Quality Assurance at City of Cape Town
Johannesburg Area, South Africa

Dimakatso M. Lesabe was born in Pretoria and recently relocated to Cape Town to pursue her career. Dimakatso is currently appointed as the Head: Quality Assurance in the Scientific Services Branch of the Water and Sanitation Department, at City of Cape Town, South Africa. She obtained a Bachelor of Technology degree in Quality from UNISA, and BSc Honours in Environmental Management from the University of South Africa, respectively. Dimakatso was previously employed as a Deputy Director, Quality Assurance Manager within the Centre of Innovation Business Unit, at Gauteng Department of e-Government and SHEQ Practitioner at National Metrology Institute of South Africa (NMISA-Pretoria) whereby she was overseeing the Quality Management System of the organization to maintain the ISO 17025 Accreditation status. During her career journey, she worked in different chemistry laboratories as a laboratory analyst. Amongst other organizations, she had worked for Eskom, BPSA, and SAPS-Forensic Services. Her field of expertise includes quality management systems, EHS Management System. She is currently completing a Postgraduate Diploma in Risk Management and has acquired experience, knowledge and skills in ISO Standards (ISO 17025; 9001; 14001; and OHSAS 18001). She is a professional member of the South African Quality Authority (SASQ) and South African Quality Institute (SAQI).

Rendani Luvhengo
Freelance Consultant
Johannesburg, South Africa

Rendani Luvhengo is currently a freelancing Non Destructive Technician. She obtained a National Diploma in Non Destructive Testing in 2013 at the Vaal University of Technology. She further completed level 2 certificates in Magnetic Particle Testing and Dye penetrant testing in 2014. Her passion in quality propelled her to enroll for quality and was honoured with a Bachelor of Technology degree in Quality at the University of Johannesburg in 2018. To better her horizons she took it upon herself to learn and equip herself with more knowledge by completing a course in ISO 9001:2015 lead auditor at Bureau Veritas.

Natasha Ramkirpal
Production and Process Improvement Specialist
Coca-Cola Beverages South Africa (CCBSA) - part of the business’s Manufacturing Centre of Excellence

Natasha Ramkirpal is a Production and Process Improvement Specialist at Coca-Cola Beverages South Africa (CCBSA), part of the business’s Manufacturing Centre of Excellence. She is currently responsible for implementing and improving standards that serve to improve the production capability of manufacturing plants across the CCBSA group. She plays an integral role in the development and improvement of business processes and systems and is a key driver of overall manufacturing performance improvement across CCBSA (13 sites). Her most recent achievements include leading the manufacturing stream for a unified SAP ERP integration platform for CCBA’s South African operations. She has worked in industry for well over a decade. She started her career of interning as a student at Mondi Paper, and went on to become a Process Control Engineer at Mintek and BASF before beginning her management traineeship with SABMiller’s Soft Drinks division. She has grown within her business from a shift Production Team Leader to successfully managing some of the largest and fastest packaging lines within CCBSA, as a Production Unit Manager. Her migration into CCBSA’s Technical team saw her support, lead, and develop a great deal of initiatives that have led to substantial environmental improvements for the business. She has also been involved in new packaging designs that have changed the look and feel of the products we know and love. She completed a Bachelor of Science Degree in Chemical Engineering from the University of KwaZulu Natal. She also holds a Bachelor of Commerce Degree in Management (Finance and Supply Chain), and an Advanced Diploma in Packaging Technology (Cum Laude). In addition to this she has also completed a Lean Manufacturing Qualification from Wits University, and a Women in Leadership development program via GIBS. She is also working on completing a CIMA in Operational Management and an MSc in Engineering and Technology with the University of Pretoria.

Charlaine Baartjes
Founding Partner
EcoPartners

Founding Partner at EcoPartners started in 2005, Charlaine has extensive experience in the Mining, Construction, Bulk Infrastructure, Manufacturing, Waste, Oil & Lubrication; and Land Development fields. Having applied 20 years of experience in the Environmental sector, she has had the opportunity to work closely with all the components of Sustainable Development, Project Management, and Implementation of standards. She worked at the “coal-face” in the mining industry in Diamonds, Platinum, Coal, Gold and Industrial minerals. Qualified with a double masters, one in Business (MBA) and one in Science (MSc), she has an innovative approach to the challenges facing both business and the environment, negotiating a win-win solution rather than forcing a one-way answer. Charlaine has completed >1,000 hours Auditing and >2,000 hours Training for industry. She has produced in excess of 50 technical reports and legal authorisations. Charlaine has worked closely with Legal, Finance and Engineering Advisors, NGO’s, Project Specialists, Competent Authorities and Project Proponents. Most recently she enrolled for her doctorate in “Waste Prevention”, focusing on finding solutions rather than shouting at the world not to change.
Session III: Industry Solutions
Session Chair: 
4:30 pm – 6:00 pm (Tuesday) – Room Spartan 3

4:30 – 5:00 (Tuesday)
ID 454 The correlation between choice of performance measures and organisational performance: a study of the oil and gas industry
Yahaya Yusuf Lancashire Business School United Kingdom

5:00 – 5:30 (Tuesday)
ID 455 Application of optimization principle in Portfolio Selection of a firm using linear programming Oral
Nathaniel Kayode Oladejo Landmark University, Nigeria

5:30 – 6:00 (Tuesday)
ID 453 Evaluating the energy efficiency of rural foundry coal fired furnace based on design and material selections
Kulani Mageza University Johannesburg South Africa

Session IV: Industry Solutions
Session Chair: Mohamed Sameer Hoosain, University of Johannesburg (UJ), South Africa
8:00 am – 9:30 am (Wednesday) – Room Spartan 3

8:00 – 8:30 (Wednesday)
Mohamed Sameer Hoosain
Post-Graduate Researcher
University of Johannesburg (UJ), South Africa

Mohamed Sameer Hoosain is a post-graduate member of the University of Johannesburg (UJ). He is a PhD candidate; his research is based on electrical engineering topics in regard to the 4th Industrial Revolution. His master’s thesis in electrical engineering dissertation – is in the area of Energy Efficiency in Smart Homes Based on DSM. His manuscripts have been presented and published at local and international conferences and journals in his research field. He has qualified as an electrical engineer and has gained experience working in the academic sector and industrial sector. Engineering, Production management, Internal auditing (ISO 22000 FSSC 22000 including HACCAP) at an FMCG company. Among others, he has successfully completed an EPICS-in-IEEE project and is involved in ongoing projects at the University of Johannesburg (UJ) FEBE, and fosters collaboration with external parties, for instance, Engineers Without Borders (EWB), UJ chapter, Techno lab and Growing up Africa. Other areas include project management for Makerspace initiatives, compiling proposals for grants. He is a member of South African Institute of Electrical Engineers (ECSA) as a candidate engineering technologist en-route professional registration and a graduate student member with the Institute of Electrical and Electronics Engineers (IEEE).

Dr. Babu Sena Paul
Director to the Institute for Intelligent Systems
University of Johannesburg
South Africa

Babu Sena Paul received his B.Tech and M.Tech degree in Radio physics and Electronics from the University of Calcutta, India. He was with Philips India Ltd from 1999-2000. He received his Ph.D. degree from the Department of Electronics and Communication Engineering, Indian Institute of Technology. He has successfully supervised several postgraduate students and post-doctoral research fellows. He joined the University of Johannesburg in 2010. He has served as the Head of the Department at the Department of Electrical and Electronic Engineering Technology, University of Johannesburg from 2015 to March 2018. He is the currently serving as the Director to the Institute for Intelligent Systems, University of Johannesburg.

Wesley Doorsamy
Senior Lecturer
University of Johannesburg, South Africa
Wesley Doorsamy received the B.Sc., M.Sc. and Ph.D. Degrees in Electrical Engineering from the University of the Witwatersrand in Johannesburg, South Africa in 2008, 2013 and 2015, respectively. He is currently a senior lecturer at the University of Johannesburg and is an active member of both the Institute of Electrical and Electronics Engineers (IEEE) and South African Institute of Electrical Engineers.

ID 373  
Constraint Dependent, Shortest Path Algorithms for Real Time Vehicles Movement in the Coal Mining Industry towards Industry 4.0
Mohamed Sameer Hoosain, Department of Electrical and Electronic Engineering Technology, University of Johannesburg
Babu Sena Paul, Institute for Intelligent Systems, University of Johannesburg
Wesley Doorsamy, Department of Electrical and Electronic Engineering Technology, University of Johannesburg

8:30 – 9:00 (Wednesday)

Professor Sunday Olayinka Oyedepo
Head of Department of Mechanical Engineering
Covenant University, Ota, Ogun State, Nigeria

Professor Sunday Olayinka Oyedepo is the current Head of Department of Mechanical Engineering in Covenant University. His research interests are energy conversion and management, renewable energy, power plant optimization, vibration and acoustics as condition monitoring, noise pollution, heat transfer and refrigeration and air conditioning. He has numerous awards and honours to his credit. His teaching areas are Thermodynamics, Fluid Mechanics, Power Plants & Propulsive systems, Fluid Dynamics & Aerodynamics, Heat Transfer, Fluid Machinery, Renewable Energy, Energy Management and Technologies, Noise and Vibration, Fluid Power Systems, Refrigeration & Air conditioning.

Dr. Isaac O.S. Fayomi
Professor
Department of Chemical, Metallurgical and Materials Engineering
Tshwane University of Technology
Pretoria, South Africa

Dr. Isaac O.S. Fayomi has established himself both as one of the 21st century proven academic and rated researcher in the area of Materials science, Mechanical Metallurgy, and Advanced Surface Engineering with nanocomposite multifunctional fabrication of alloys. He has a combination of multifaceted experience and qualification in engineering disciplines such as mechanical, materials, environmental and chemical sciences. He obtained his Master’s and Doctoral degree in Metallurgical Engineering (Mechanical Metallurgy bias) from Department of Chemical, Metallurgical and Materials Engineering, Tshwane University of Technology, Pretoria, South Africa. He had a postgraduate diploma in environmental and natural resource management. His area of interests area: Mechanical Metallurgy, Materials Development and Corrosion Engineering. He is an expert in surface engineering and prevention such as laser surface treatment, thin film application and additive inoculation with interface phenomena. He has contributed immensely to the advancement of materials globally as a visiting scholar to several Universities both locally and internationally. He has his hands on deck on the interpretation of the use of advanced modern age equipment for chemistry and physics of materials like TEM, XRD, TGA/DSC, SEM/EDX, AFM, FTIR, Wear (Tribology-3 body Abrasive-reciprocating sliding) Raman spectrometer and Micro-hardness tester.

Engineer Dirisu Joseph
Researcher, Department of Mechanical Engineering
Covenant University
Ota, Ogun State, Nigeria

Engineer Dirisu Joseph is a faculty and a PhD student in Mechanical Engineering, covenant University. He is currently working on ceiling composites which involves multidiscipline areas in Material Science and Engineering, Civil Engineering, Chemistry and Mechanical Engineering. He obtained his Masters and BSc at Obafemi Awolowo University in Mechanical Engineering Department. He is a registered Engineering with COREN. His area of interest is Renewable Energy and Thermofluid, fluid powered machinery, heat transfer and refrigeration & air-conditioning. His teaching areas are Thermodynamics, Fluid Mechanics, Heat Transfer, Fluid Powered Machinery, Renewable Energy, Ergonomics, Fluid Power Systems, Refrigeration & Air conditioning.

ID 349  
Review of Building Ceilings in the Trend of Technological Advancement
O Dirisu, Department of Mechanical Engineering, Covenant University. P.M.B 1023, Ota, Ogun State, Nigeria.
O.S. I Fayomi, Department of Mechanical Engineering, Covenant University. P.M.B 1023, Ota, Ogun State, Nigeria.
Department of Chemical, Metallurgical and Materials Engineering, Tshwane University of Technology, P.M.B. X680, Pretoria, South Africa.
O Oyedepo1, 1Department of Mechanical Engineering, Covenant University. P.M.B 1023, Ota, Ogun State, Nigeria.

9:00 – 9:30 (Wednesday)

William Kelly
Rydawi Services
Muldersdrift, Johannesburg
South Africa

William Kelly has been involved with fish all his life and made a career out of Koi which is a bit of a diversion from his formal education as a chemical engineer. A serial entrepreneur William has considerable experience in innovating new products to solve problems within the aquaculture space. Design, financial planning, implementation and project management are William’s specialties.
2:30 - 3:00 (Wednesday)

**Nico Landman**  
Head of Didactic - SADC+ (EAC)  
Festo  
Isando, Johannesburg  
South Africa

Presentation Title: Qualification for the Fourth Industrial Revolution?

Nico Landman is an Electrical Engineer, holds a B.Com in Business and Marketing Management, and is an internationally accredited business mentor and coach through MBCI. Nico currently heads up Festo Didactic, world leaders in technical training and education, for the African SADC and EAC regions. He has 35 years industry experience, and has held senior positions in the areas of Sales Management, Human and Strategic Resources, and E-Commerce. His current passion and focus is on “Qualification 4.0”, the approach to capacitate management and operational staff alike to face the challenges and opportunities presented by Industry 4.0

3:00 - 3:30 (Wednesday)

**Mr. Aluwani Percy Ramabulana**  
Chairman / Project Leader / Board Member  
Dataqwip and Mudzi Energy and Logistics T/A Mudzi Transport Solutions  
Johannesburg, South Africa

Qualifications  
B.Sc Chemical Engineering: Oregon State University, Oregon USA  
MBA, Nyenrode Universiteit, Breukelen, The Netherlands  
Executive Development Programme, IMD, Switzerland

Certificates  
Certificate in corporate governance and risk management  
DaimlerChrysler leadership forum – DaimlerChrysler University, Stuttgart Germany  
Public Finance Management Act (PFMA) course (IOD)

CAREER HISTORY

- Non-Executive Directorships and committee memberships:  
  - Current: Board member Transnet SOC.  
  - Current: Member of the Audit committee, Transnet.  
  - Current: Member of the Finance and Investment committee, Transnet board  
  - Current: MDZ Holdings (Pty) Ltd  
  - Current: Chair of the industrial advisory committee of the University of Johannesburg  
  - Member of the Mercedes Benz group of companies executive committee (Former)  
  - Mercedes Benz Financial Services (Pty) Ltd (Former)  
  - Bono Lithihi investment Holdings (Pty) Ltd – Exploration mining company

Summary of Experience

- Experienced executive with over 15 years commercial experience of which 10 years was in senior management and 4 years was spent as a CEO of a subsidiary of Mercedes Benz Group South Africa  
- Managed a an automotive multinational company with Turnover of more than R1 billion  
- Extensive experience in senior management and executive roles with experience across various disciplines including strategic management, strategic marketing, corporate governance, corporate finance and people management  
- Experience in creating successful partnerships and strategy development and implementation  
- Extensive experience in managing complex strategic projects such as the project for the acquisition of 410 World Cup buses, in partnership with the Department of Transport and PRASA, on schedule and within budget  
- Served on the Executive committee of Mercedes Benz Group South Africa, gaining exposure to strategic leadership issues facing the automotive industry in South Africa  
- Experienced board member, served on the board of Mercedes Benz Financial Services  
- Gained competence in a wide range of disciplines including Strategic Business Management, corporate Finance, Strategic Marketing as well as technical infrastructure across various industries  
- Extensive experience working with various modes of road transport including, Buses, Trucks, Taxis etc  
- Chairman of the University of Johannesburg’s Faculty of Engineering and the Built Environment (FEBE)’s industrial advisory council  
- Oversight on the restructuring of the University’s Engineering Faculty  
- Developed products aimed at emerging truck operators, in partnership with Khula, NEF and IDC  
- Developed Taxi Financing products in partnership with various Taxi associations  
- Experience with mergers and acquisitions, in particular my involvement with various BEE transactions both as a vendor and buyer  
- Extensive experience with acquisitions and disposal of mining assets, in particular Greenfield projects

**Session VI: Industry Solutions**  
**Session Chair:**  
4:30 – 6:00 pm (Wednesday) – Room Spartan 1

4:30 - 5:00 (Wednesday)
Dudley Jura
Operations Manager: Coke & Chemicals
ArcelorMittal South Africa
Vanderbijlpark, Gauteng, South Africa

Dudley Jura holds a PhD in Engineering Management and has expertise in nurturing small businesses for excellence in the technology sector. After training and qualifying as a metallurgist, Dudley has had over 25 years of experience in the base metals, coal, manufacturing and project management fields. Other qualifications include an MBA and a Master of Engineering degree in Manufacturing Systems and Operations Management. The speaker is affiliated to the Engineering Council of South Africa (Pr Tech Eng) and is a member of the Coaches and Mentors of South Africa.

5:30 - 6:00 (Wednesday)

Kubeshnie Bhugwandin
Technology Strategy Manager
Eskom

Presentation Title - Disruptive Innovations and the Changing Energy Landscape
## Parallel Sessions

### Tuesday, October 30, 2018

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<thead>
<tr>
<th>Rooms</th>
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<th>Spartan 3</th>
<th>Spartan 4</th>
<th>Acropolis 2</th>
<th>Acropolis 3</th>
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<tbody>
<tr>
<td>8:00</td>
<td>Global Engineering Education I</td>
<td>Industry Solutions I</td>
<td>Undergraduate Student Paper Competition</td>
<td>Graduate Student Paper Competition</td>
<td>Supply Chain Management</td>
<td>Engineering Management</td>
<td>Project Management</td>
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<tr>
<td>9:40</td>
<td>Welcome Address: Livhuwani Tommy Mahode, Deputy Director-General, Institutional Planning and Support, Department of Science and Technology, Republic of South Africa - SPARTAN 1 Ballroom</td>
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<td>10:00</td>
<td><strong>Opening Keynote:</strong> Dr. Rupy Sawhney, Professor and Heath Fellow in Business &amp; Engineering, Department of Industrial and Systems Engineering and Executive Director of CASRE (Center for Advanced System, Research and Education), University of Tennessee, Knoxville, Tennessee, USA - SPARTAN 1 Ballroom</td>
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<td>11:30</td>
<td><strong>Keynote:</strong> Khaya Madiba, Bogie - Subsystem &amp; Maintenance Engineer, Gibela-Rail, South Africa - SPARTAN 1 Ballroom</td>
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<td>12:15</td>
<td><strong>Keynote:</strong> Cobus Oosthuizen, Chief Executive Officer, ESTEQ, Pretoria, Gauteng, South Africa - SPARTAN 1 Ballroom</td>
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<tr>
<td>2:30</td>
<td>Global Engineering Education II</td>
<td>Women in Industry and Academia Panel</td>
<td>Competitions</td>
<td>Rail</td>
<td>Engineering Management</td>
<td>Total Quality Management</td>
<td>Case Studies</td>
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<tr>
<td>4:00</td>
<td>Networking Break at Exhibition Hall</td>
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<tr>
<td>4:30</td>
<td>Global Engineering Education III</td>
<td>Women in Industry and Academia Panel</td>
<td>Energy</td>
<td>Construction Management</td>
<td>Sustainability</td>
<td>Business Management</td>
<td>Case Studies</td>
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</tbody>
</table>

6:00 – 7:30 pm: Poster Session, Senior design poster competition and Student Chapter Activity Presentation

### Wednesday, October 31, 2018

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<th>Rooms</th>
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<tbody>
<tr>
<td>8:00</td>
<td>Global Engineering Education IV</td>
<td>Industry Solutions IV</td>
<td>Energy</td>
<td>Construction Management</td>
<td>Environmental Engineering</td>
<td>Quality Control and Management</td>
<td>Operations Management</td>
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<tr>
<td>9:40</td>
<td><strong>Keynote:</strong> Professor Angina Parekh, Deputy Vice Chancellor: Academic, University of Johannesburg, South Africa and Former Special Advisor on Higher Education to the Minister of Education - SPARTAN 1 Ballroom</td>
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<td>10:20</td>
<td><strong>Keynote:</strong> Dr. Abu Masud, Boeing Global Engineering Professor Emeritus, Industrial and Manufacturing Engineering, Wichita State University, Kansas, USA – &quot;Student Learning: Assessment and Improvement&quot; - SPARTAN 1 Ballroom</td>
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<td>11:30</td>
<td><strong>Keynote – Arthur Mutambara,</strong> Former Deputy Prime Minister of Zimbabwe and Visiting Full Professor - University of Johannesburg - SPARTAN 1 Ballroom</td>
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<td>12:15</td>
<td><strong>Keynote:</strong> Dr. AAA. Atayero, Vice Chancellor, Covenant University, Ota, Ogun State, Nigeria - SPARTAN 1 Ballroom</td>
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<td>4:30</td>
<td>Global Engineering Education VI</td>
<td>Production Planning and Management</td>
<td>Manufacturing</td>
<td>Data Analytics</td>
<td>Design and Analysis</td>
<td>Project Management</td>
<td>Operations Research</td>
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7:00 – 10:00 pm, Wednesday: Conference Awards and Recognition Dinner

### Thursday, November 1, 2018

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<tr>
<td>6:30</td>
<td>Global Engineering Education VII</td>
<td>Lean</td>
<td>information Systems and Information Technology</td>
<td>Transportation and Traffic</td>
<td>Sustainable Manufacturing</td>
<td>Modeling and Simulation</td>
<td>Optimization</td>
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<tr>
<td>9:30</td>
<td><strong>Keynote:</strong> Dr. Sundaravalli Narayanaswami, Indian Institute of Management, Ahmedabad, India - SPARTAN 1 Ballroom</td>
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<td>10:15</td>
<td><strong>Keynote:</strong> Dr. Eugén Ranft, Operations Manager, Eaton Electric (South Africa) (Pty) Ltd, Johannesburg, South Africa - SPARTAN 1 Ballroom</td>
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<td>2:30</td>
<td>Global Engineering Education IX</td>
<td>Artificial Intelligence</td>
<td>Automation and Agility</td>
<td>Entrepreneurship and Innovation</td>
<td>Sustainability and Green Systems</td>
<td>Six Sigma</td>
<td>Systems Dynamics and Systems Engineering</td>
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October 30, 2018 (Tuesday)

Session: 8:00 – 9:30 am

Global Engineering Education I  
Spartan 2

8:00 – 8:30 (Tuesday)

**Dr. Olufemi Adetunji**  
Senior Lecturer  
Department of Industrial and Systems Engineering  
University of Pretoria, South Africa

**ID 386**  
Acceptance of a New Industry Work Experience Reporting Platform among Students  
Olufemi Adetunji, University of Pretoria, South Africa

8:30 – 9:00 (Tuesday)

**Ngaka Mosia**  
Junior Lecturer, Department of Mechanical and Industrial Engineering  
School of Engineering and a College of Science, Engineering and Technology  
University of South Africa (Unisa)  
Gauteng, South Africa

**ID 129**  
Ngaka Mosia, Mechanical and Industrial Engineering, University of South Africa (Unisa), Florida, Science Campus, Gauteng, South Africa

9:00 – 9:30 (Tuesday)

**Bontle Tladi**  
Industrial Engineering, BS, MS  
University of the Witwatersrand  
Johannesburg, South Africa

Industry Solutions I  
Spartan 3

8:00 – 8:30 (Tuesday)

**Professor Arnesh Telukdarie, P.E.**  
Associate Professor in Engineering Management  
University of Johannesburg, South Africa

**ID 359**  
An Industry 4.0 Research Review for the Pulp and Paper Industry  
A. Telukdarie and A Kumar, Department of Engineering Management, University of Johannesburg, South Africa

8:30 – 9:00 (Tuesday)

**George F. Mukwawaya**  
Postgraduate Researcher  
University of the Witwatersrand, Johannesburg, South Africa

**ID 298**  
Assessing the Readiness of South Africa for Industry 4.0 – Analysis of Government Policy, Skills and Education  
George F. Mukwawaya, Bruno Emwana and Sibusiso Mdakane, School of Mechanical, Industrial and Aeronautical Engineering, University of the Witwatersrand Johannesburg, South Africa

9:00 – 9:30 (Tuesday)

**Uduakobong E. Ekpenyong**  
Electrical Engineer  
Senior Consultant in the Asset Management Unit  
Aurecon  
South Africa
<table>
<thead>
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<th>Session Time</th>
<th>Session Name</th>
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<th>Papers</th>
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<td>8:00 – 9:30, TUESDAY</td>
<td>Competitions</td>
<td>Spartan 4</td>
<td>UNDERGRADUATE STUDENT PAPER COMPETITION</td>
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<td>ID 088 Gas Chromatography Calibration Curve for Siloxanes Analysis</td>
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<td>Justin K. Mwewbe, Douw G. Faurie and Molelekoa J. Mosesane</td>
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<td>Tshwane University of Technology, Pretoria, Republic of South Africa</td>
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<td>ID 465 Integrated Energy Conversion (IEC) System for Fitness Centres</td>
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<td>Emanuel Zeferino and Boitumelo Ramatsetse, Tshwane University of</td>
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<td>Technology, South Africa</td>
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<td>ID 209 Time-Dependent Traffic Route Selection for Unsignalized</td>
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<td>Junctions in Tandem Queueing network</td>
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<td>Anand Jaiswal, Chirag Chandan Mishra and Cherian Samuel, Dept. of</td>
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<td>Mechanical Engineering, Indian Institute of Technology (BHU), Varanasi</td>
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<td>Hermias C. N. Hendrikse and Armand du Plessis, ESTEQ, Pretoria,</td>
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<td>South Africa</td>
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<tr>
<td>8:00 – 9:30, TUESDAY</td>
<td>Graduate Student Paper Competition</td>
<td>Acropolis 2</td>
<td>SIMULATION AND PLM COMPETITION</td>
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<td>ID 227 Cash Register Queue Simulation Scenarios for a Giant Retail</td>
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<td>Batin Latif Aylak, Department of Mechanical Engineering, Türkisch-</td>
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<td>Deutsche Universität, Beykoz / İstanbul, Turkey</td>
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<td>8:00 – 9:30, TUESDAY</td>
<td>Supply Chain Management</td>
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<td>ID 134 Application of Auxiliary Equipment in Productivity Improvement</td>
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<td>Ngaka Mosia, Mechanical and Industrial Engineering, University of</td>
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<td>Jan Harm Christiaan Pretorius, University of Johannesburg, South</td>
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<td>ID 095 Evaluation of Chemical Oxygen Demand (COD) Reduction in</td>
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<td>Distillery Wastewater Treatment Using the Photocatalysis</td>
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<td>Daphney Hlotse, Thabo Brooms, Molelekoa Mosesane, Department of</td>
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<td>Chemical, Metallurgical and Materials Engineering, Tshwane University</td>
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<td>of Technology, Pretoria, South Africa</td>
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<td>ID 086 The Study of the Sewerage Disinfection Properties of Moringa</td>
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<td>Tshwane University of Technology, Pretoria, Republic of South Africa</td>
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<td>Surajit Bag, Armesh Telukdarie, Faculty of Engineering and Built</td>
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<td>Environment, University of Johannesburg, Johannesburg, South Africa</td>
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<td>ID 357 Internet of Things: Opportunity for Disaster Risk Reduction</td>
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<td>V.T. Baloyi, Department of Rural Development and Land Reform,</td>
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<td>University of Johannesburg, South Africa</td>
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<td>A. Telukdarie, Department of Post Graduate School of Engineering</td>
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<td>Management, University of Johannesburg, South Africa</td>
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<td>ID 021 Managing Change in an Engineering Company</td>
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<td>Larissa Junkoon, Annelize Marnewick, Postgraduate School of</td>
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<td>Engineering Management, Faculty of Engineering and the Built</td>
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<td>Environment University of Johannesburg, Johannesburg, South Africa</td>
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### ID 013  Modelling and Analysis of Barriers to Implementation Social Sustainability Practices using MICMAC Approach
Usama Awan, Industrial Engineering and Management, School of Engineering Sciences, Lappeenranta Univ. of Technology, Lappeenranta, Finland
Andrzej Kraslawski, Industrial Engineering and Management, School of Engineering Sciences, Lappeenranta University of Technology, Finland
Janne Huiskonen, Industrial Engineering and Management, School of Engineering Sciences, Lappeenranta Univ. of Technology, Lappeenranta, Finland

### ID 346  Water Distribution System’s Network Reliability, Availability and Maintainability
N.J. Kiewiet and A. Telukdarie, School of Engineering Management, University of Johannesburg, South Africa

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**8:00 – 9:30, TUESDAY**

**Project Management**

**Acropolis 5**

Session Chair: Catherine Vesperini, IEMSR, France

**ID 219** Adaptation and Speed: Key Reasons to Adopt Agile Project Management within the IT Industry
Eveth Nwobodo-Anyadiwgwu, Alice Lumbwe Kabamba and Kasumba DT, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

**ID 112** Agility in the Project Management of a 1 MW Solar PV Plant Implementation
Mhlengi Emmanuel Dlamini, Nithin Isaac, Council for Scientific and Industrial Research, Energy Autonomous Campus, Pretoria, South Africa

**ID 052** An Investigation into the Sustainability of Advance Payment on Public Construction Projects Delivery
Isaac Olaniyi Aje and Olufisayo Adewumi Adedokun, Department of Quantity Surveying School of Environmental Technology, Federal University of Technology, Akure, Nigeria

**ID 202** Critical Success Factors (Csfs) of Mida Compact 1 Road Transport Project in Ghana: A Case of the Ghana-Mida Compact I Project
Amevi Acakpovi, Electrical and Electronic Engineering Department, Accra Technical University, Accra, Ghana
Abena M. Adutwum, Open University of Malaysia/ Accra Institute of Technology (AIT), Accra-North Accra, Accra, Ghana
Mathias Bennet Michael, Electrical and Electronic Engineering Department, Accra Technical University, Accra, Ghana
Samuel Blay Amo, Electrical and Electronic Engineering Department, Accra Technical University, Accra, Ghana
Anthony Deku, Mechanical Engineering Department, Accra Technical University, Accra, Ghana

**ID 040** Adaptation and Climate Risk Strategy
Catherine Vesperini, IEMSR, France

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### October 30, 2018 (Tuesday)

**9:40 am – 10:00 am, Tuesday:** WELCOME KEYNOTE ADDRESS

**Livhuwani Tommy Makhode**
Deputy Director-General: Institutional Planning and Support
Department of Science and Technology, Republic of South Africa

**10:10 am – 11:00 am, Tuesday:** OPENING KEYNOTE

**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 Tennessee, Knoxville, Tennessee, USA

11:00 am - 11:30 am: Networking Break

**11:30 am – 12:10 pm, Tuesday:** KEYNOTE

**Khaya Madiba**
Bogie - Subsystem & Maintenance Engineer
Gibela-Rail, South Africa

**12:10 pm – 12:50 pm, Tuesday:** KEYNOTE

**Cobus Oosthuizen**
Chief Executive Officer - ESTEQ
Pretoria, Gauteng, South Africa

**1:00 – 2:30 pm, Tuesday:** Buffet Networking Lunch
## Session – Tuesday (October 30): 2:30 – 4:00 pm

### 2:30 – 4:00, TUESDAY  
**Global Engineering Education II**  
**Spartan 2**

Session Chair: Dr. Michael Mutingi, Namibia University of Science & Technology, Windhoek, Namibia

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<th>2:30 – 3:00 (Tuesday)</th>
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<tbody>
<tr>
<td><strong>Dr. Kirti Menon</strong></td>
<td><strong>Dr. Arno Louw</strong></td>
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</tbody>
</table>
| Senior Director of Academic Planning, Quality Promotion and Academic Staff Development  
University of Johannesburg, South Africa | Associate Professor - Industrial Engineering  
Namibia University of Science & Technology  
Windhoek, Namibia |

**ID 481: Lean Curricula: Designing Curricula for the Fourth Industrial Revolution**  
Kirti Menon and Gloria Castrillon, University of Johannesburg, South Africa

3:00 – 3:30 (Tuesday)

**Dr. Michael Mutingi**  
Associate Professor - Industrial Engineering  
Namibia University of Science & Technology  
Windhoek, Namibia

3:30 – 4:00 (Tuesday)

**Dr. Arno Louw**  
Senior Specialist: Instructional Design (e-Learning): Manager: Centre for Academic Technologies Laboratory (CAT Lab)  
Division for Academic Development and Support (ADS)  
University of Johannesburg, South Africa

### 2:30 – 4:00, TUESDAY  
**Industry Solutions II**  
**Spartan 1**

2:30 pm – 6:00 pm (Tuesday) – **Spartan 3**

#### Women in Industry and Academia (WIIA) Panel Session

Panel Chair: **Dr. Nita Sukdeo**, University of Johannesburg

**PANEL SPEAKERS**

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<tr>
<td><strong>Dr. Nita Sukdeo</strong></td>
<td><strong>Dr. Hannelie Nel</strong></td>
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</table>
| Full time senior lecturer in Quality and Operations Management  
BTech Quality Programme Manager  
Department of Quality and Operations Management  
University of Johannesburg, Gauteng, South Africa | Senior Lecturer  
Postgraduate School of Engineering Management  
Faculty of Engineering and the Built Environment  
University of Johannesburg, South Africa |

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<th>Panel Speaker III</th>
<th>Panel Speaker IV</th>
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<tr>
<td><strong>Eveth Nkeiruka Nwobodo-Anyadiegwu</strong></td>
<td><strong>Yvette Shibambo</strong></td>
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</table>
| Lecturer, Faculty of Engineering and Built Environment  
University of Johannesburg, South Africa | Senior Project Manager, Eskom - Enterprise Division  
Witbank Area, South Africa |

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<th>Panel Speaker V</th>
<th>Panel Speaker VI</th>
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<tr>
<td><strong>Dimakatso Lesabe</strong></td>
<td><strong>Rendani Luvhengo</strong></td>
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| Head: Quality Assurance at City of Cape Town  
Johannesburg Area, South Africa | Freelance Consultant  
Johannesburg, South Africa |

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<th>Panel Speaker VII</th>
<th>Panel Speaker VIII</th>
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<tr>
<td><strong>Natasha Ramkirpal</strong></td>
<td><strong>Charlaine Baartjes</strong></td>
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| Production and Process Improvement Specialist  
Coca-Cola Beverages South Africa (CCBSA) - part of the business’s Manufacturing Centre of Excellence | Founding Partner  
EcoPartners |

| Panel Speaker IX |  |
|-----------------|  |
| **Dr. Anthea Amadi-Echendu** |  |
| Senior Lecturer and Acting Chair of the Department of Operations Management  
University of South Africa |  |
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<td>The Efforts of National Departments in South Africa in Support of the Nepad Initiative</td>
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<td>Grace Mkwaya and Johnny Coetzee, University of Pretoria, South Africa</td>
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<td>MASTERS THESIS COMPETITION</td>
<td>ID 128 Application of Auxiliary Equipment in Productivity Improvement</td>
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<td>Ngaka Mosia, Unisa, South Africa; Jan Harm Christiaan Pretorius, University of Johannesburg, South Africa</td>
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<td>LEAN SIX SIGMA COMPETITION</td>
<td>ID 204 Implementation of 5S in a Mechanical Workshop at University of Johannesburg: A Case Study</td>
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<td>Valentine Khumalo, Kapil Gupta and Zanele Mpaneza, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, Johannesburg, RSA</td>
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<td>SUPPLY CHAIN AND LOGISTICS COMPETITION</td>
<td>ID 147 Developing a Two-Stage Stochastic Model with L-shaped Solution Method for Dynamic Blood Supply Chain Network Model: The Case of Disaster in Tehran</td>
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<td>Faraz Salehi, Reyhanee Ashofteh and Seyed Mohammad javad mirzapour Ale-hashem, Department of Industrial Engineering and Management Systems, Amirkabir University of Technology, Iran</td>
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<td>Sundararavali Narayanaswami, Indian Institute of Management, Ahmedabad, India</td>
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<td>ID 184</td>
<td>Evaluating the Impact of TPM in a Railway and Mining Component Manufacturing Company</td>
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<td>Yvonie N. Mawane and Goodwell Muyengwa, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, RSA</td>
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<td>ID 098</td>
<td>Development of a Controller for an Active Suspension System of a Rail Car</td>
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<td>Daniyan, I. A and Mpofu, K, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa; Daniyan, O. L., Centre for Basic Space Science, University of Nigeria, Nsukka, Nigeria</td>
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<td>2:30 – 4:00, TUESDAY</td>
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<td>Prof. J.H.C Pretorius, University of Johannesburg, Auckland Park, South Africa</td>
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<td>ID 348</td>
<td>A Model For Optimization Of Green House Gases (GHG) Capture Technologies In Power Plants</td>
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<td>S. Mnyani &amp; A. Telukdarije, Department of Engineering Management, University of Johannesburg, South Africa</td>
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<td>ID 347</td>
<td>A Review on Industry 4.0 and Supply Chain Sustainability</td>
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<td>A.Telukdarije &amp; S.Bag, Postgraduate School of Engineering Management, University of Johannesburg, South Africa</td>
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<td>ID 016</td>
<td>Business Process Reengineering during Technology Implementation in Power Plants</td>
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<td>T. Buthelezi and A. Marnewick, Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment University of Johannesburg, Auckland Park, South Africa</td>
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<td>Yolisa Andi Motspe, Bheki Makhanya and Prof. J.H.C Pretorius, Post Graduate School of Engineering Management, Faculty of Engineering and the Built Environment University of Johannesburg, Auckland Park, South Africa</td>
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<td>Total Quality Management</td>
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<td>Samuel Kwame Ansah, University of Johannesburg, Gauteng, South Africa</td>
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<td>An empirical analysis of Total Quality Management and Total Productive Maintenance in Industry 4.0</td>
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<td>Guilherme Luz Tortorella, Eduardo Ferreira da Silva and Danieli Braun Vargas, Department of Production and Systems Engineering, Federal University of Santa Catarina, Florianopolis, SC, Brazil</td>
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<td>Analysing the Impact of Enterprise Resource Planning (ERP) in Improvising Business Operations of Cooperatives</td>
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<td>Khathutshelo Mushavhanamadi and Lerato Octavia Mpanza, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment University of Johannesburg, Auckland Park, South Africa</td>
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<td>Ensuring Sustainable Business Development Using Strategic Planning as a TQM Tool: Abud Ventures, Nigeria as a Case Study</td>
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<td>Oluwafemi Ifetayo and Oluwafemi Jesusetemi, Postgraduate School of Engineering Management, University of Johannesburg, South African, RSA; Aigbavboa Clinton, Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa</td>
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<td>ID 156</td>
<td>Application of Delphi Technique in Predicting Total Quality Management Constructs In Ghanaian Construction Industry</td>
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<td>Samuel Kwame Ansah, Clinton Ohis Aigbavboa, and Thwala Didibhuku Wellington, Department of Construction Management and Quantity Surveying, Faculty of Engineering and Built Environment University of Johannesburg, Johannesburg, Gauteng, South Africa</td>
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Session – Tuesday (October 30): 4:30 – 6:00 pm

### Session Chair: Prof. Clinton Aigbavboa, University of Johannesburg, Johannesburg, RSA

#### 4:30 – 5:00 (Tuesday)

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

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

#### 5:00 – 5:30 (Tuesday)

**Dr. Mohammad Sarwar Morshed**
Professor of Industrial and Production Engineering, Department of Mechanical and Production Engineering
Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh

#### 5:30 – 6:00 (Tuesday)

**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

### 4:30 – 6:00, TUESDAY Industry Solutions III  Spartan 3

#### 4:30 – 5:00 (Tuesday)

ID 454 The correlation between choice of performance measures and organisational performance: a study of the oil and gas industry
Yahaya Yusuf Lancashire Business School United Kingdom

#### 5:00 – 5:30 (Tuesday)

ID 455 Application of optimization principle in Portfolio Selection of a firm using linear programming Oral
Nathaniel Kayode Oladejo Landmark University, Nigeria

#### 5:30 – 6:00 (Tuesday)

ID 453 Evaluating the energy efficiency of rural foundry coal fired furnace based on design and material selections
Kulani Mageza University Johannesburg South Africa
### Energy

**ID 339**  
An Alternative Computational Technique for Solving Reactive Power Loss Estimation and Allocation Problems  
Akintunde Samson Alayande and Nnamdi Nwulu, Department of Electrical/ Electronic Engineering Science, University of Johannesburg, Auckland Park, South Africa

**ID 177**  
Benchmarking Energy Challenges in Palm Oil Mills in Ghana  
Mathias B. Michael, Esther T. Akinlabi and Tien-Chien Jen, Dept. of Mechanical Engineering Science, University of Johannesburg, South Africa

**ID 149**  
Development and Fabrication of a Wood Gasifier to Power an Internal Combustion Engine  
Simon Chingwusa, Wilson R. Nyemba and Tien-Chien Jen, Department of Mechanical Engineering Science, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park 2006, Johannesburg, South Africa

Kudzai Boora, Department of Mechanical Engineering, University of Zimbabwe, Mount Pleasant, Harare, Zimbabwe

**ID 094**  
Development and Optimization of a Smart Digester for the Production of Biogas  
Daniyan, I. A. Department of Industrial and Manufacturing Engineering, Tshwane University of Technology, Pretoria, South Africa

Ahwin, K. A. Department of Mechanical & Mechatronics Engineering, Afe Babalola University, Ado Ekiti, Nigeria

Aderoba, A. A. Department of Mechanical & Mechatronics Engineering, Afe Babalola University, Ado Ekiti, Nigeria

Daniyan, O. L. Centre for Basic Space Science, University of Nigeria, Nsukka, Nigeria

Mpfou, K. Department of Industrial and Manufacturing Engineering, Tshwane University of Technology, Pretoria, South Africa

**ID 148**  
Energy Efficiency in Manufacturing in the Context of the Fourth Industrial Revolution  
Adenuga Olukorede Tijani, Mpfou Khumbulani and Gabisile Buyiswa Gamede, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa

### Construction Management

**ID 173**  
A Qualitative Assessment of the Impact of Strategy on the Competitive Advantage of Construction Firms in the Ghanaian Construction Industry  
Matthew Kwaw Somiah, Clinton Ohis Aigbabvoa and Wellington Didibhuku Thwala, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

Matthew Kwaw Somiah, Faculty of Built and Natural Environment, Takoradi Technical University, Ghana

**ID 220**  
A Review of Factors Influencing Construction Performance in South Africa  
Benjamen Adeyemi and Clinton Aigbabvoa, Dept. of Construction management and Quantity surveying, University Johannesburg, South Africa

**ID 051**  
An Investigation into the Severity of Factors Predisposing Construction Projects to Risks in Nigeria  
Olufisayo Adewumi Adedokun, Isaac Olaniyi Aje and Oladele Johnson Agboola, Department of Quantity Surveying, School of Environmental Technology, Federal University of Technology, Akure, Nigeria

**ID 157**  
Appraisal of Measures in Enhancing Professionalism and Ethical Conducts among Quantity Surveyors in Nigerian Construction Industry  
Ebuaholuwa Bimbola Akinnatra and Adedayo Johnson Ogungbile, Department of Quantity Surveying, The Federal University of Technology, Akure, Ondo State, P.M.B 704, Akure, Ondo state, Nigeria

**ID 150**  
Appraisal of the Factors Affecting Emotional Intelligence of Construction Professionals in Nigeria  
Adedayo Ogungbile, Oluseyi Awodele and Ayodeji Oke, Department of Quantity Surveying, School of Environmental Technology, The Federal University of Technology, Akure, Nigeria

**ID 025**  
Beneficiaries’ Participation in the Informal Settlement Upgrading Processes in South Africa: A Case Study of Slovo-Park  
Aigbabvoa Clinton.O and Motebang Matsela, Doornfontein Campus John Orr Building, Department of Construction Management & Quantity Surveying, Faculty of Engineering and the Built Environment, University of Johannesburg, Gauteng, RSA

### Sustainability

**ID 439**  
Audit of the Process Energy and Environmental Technology Station University of Johannesburg (PEETS-UJ) on Compliance with the Occupational Health and Safety (OHS) Act and Regulations (85 of 1993)2  
Emmanuel Emem-Obong Agbenyeku and Edison Muzenda, Department of Chemical Engineering Technology, University of Johannesburg, Johannesburg, Doornfontein, South Africa

Edison Muzenda, Chemical, Materials and Metallurgical Engineering Department, Botswana International University of Science and Technology, Palapye, Botswana

**ID 427**  
Effective Management of Waste Water in Abattoirs  
Victor Msimango, 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 435**  
Ideal Research Laboratory Conceptualization: Ideal Breakthrough Research in 21st  
Ojo Sunday Fayomi, Department of Mechanical Engineering, Covenant University, Ota, Nigeria

Department of Chemical, Metallurgical and Materials Engineering, Tshwane University of Technology, Pretoria, South Africa

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First African Conference
Oluwabunmi Pamilerin Abioye, 1Department of Mechanical Engineering, Covenant University, Ota, Nigeria
Opemipo Emmanuel Atiba, 1Department of Mechanical Engineering, Covenant University, Ota, Nigeria

ID 436  Audit of the Process Energy and Environmental Technology Station University of Johannesburg (PEETS-UJ) on Compliance with the Occupational Health and Safety (OHS) Act and Regulations (85 of 1993)
Emmanuel Emem-Obong Agyenkeyu and Edison Muzenda, Department of Chemical Engineering Technology, University of Johannesburg, Johannesburg, Doornfontein, South Africa
Edison Muzenda, Chemical, Materials and Metallurgical Engineering Department, Botswana International University of Science and Technology, Palapye, Botswana

ID 437  Evaluation of Chemical Oxygen Demand (COD) Reduction in Distillery Wastewater Treatment Using the Photocatalysis
Daphney Hlotse, Thabo Brooms and Molelekoa Mosene, Department of Chemical, Metallurgical and Materials Engineering, Tshwane University of Technology, Pretoria, South Africa

ID 027  Innovative Technologies of Waste Recycling With Production of High Performance Panels
A. Mwasha and Dillon, R., University of the West Indies

4:30 – 6:00, TUESDAY  Business Management  Acropolis 4
Session Chair: Kwai Sang Chin, City University of Hong Kong, China

ID 046  Quality Management in the South African Public Procurement System
Bongumusa Mansuette Bhekamalinda Cebechkulu, Paul A. Ozor and Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Johannesburg, South Africa

ID 151  The application of Non-destructive testing (NDT) as an Aspect of Quality Control in an Industrial Plant in South Africa
Sambil Charles Mukwakungu, Sihle Mankazana, Ruth Mpho Maphosa, Ternosho Bapela and Queenza Obakeng Klaas, Department of Quality and Operations Management, University of Johannesburg, Auckland Park, Johannesburg, South Africa

ID 193  The Impact of Poor Quality in Automobile Manufacturing Industry (Ford) 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, Auckland Park, South Africa

ID 411  The Influence of Integrating Quality Management Systems on Strategic Business Plan of Electricity Industries
Xaba-Jama Nondumiso, Department of Quality and Operations Management, University of Johannesburg, Auckland Park, South Africa

ID 055  Quality, Efficiency, and Patient Satisfaction in Health Care
Kwai Sang Chin, City University of Hong Kong, China

4:30 – 6:30, TUESDAY  Case Studies  Acropolis 5
Session Chair: Hakan Butuner, IMECO Industrial Management & Engineering Co., Turkey

ID 035  Development of an Entrepreneurial Small Business’ Strategic Plan by Shortened Systematic Strategic Planning (SSP)
Hakan Butuner, IMECO Industrial Management & Engineering Co., Turkey

ID 037  Development of E-Waste Inventory Management Strategy: Case Study
Ignatio Madanhire, Kumbi Mugwindiri and Isheunesu Zimba, University of Zimbabwe, Dept. of Mechanical Engineering, Mt Pleasant, Harare, Zimbabwe
Charles Mbohwa, University of Johannesburg, Department of Quality Management and Operations Management, Auckland Park, South Africa

ID 101  Stakeholders’ Compliance and Accountability with Health and Safety in the South African Construction Industry
Kellie Nhlanulw Kwinika, Hannelie Nel and Annlizé Marnewick, Post-Graduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 017  The Critical Importance of Simulation in Helping Managers Make Better Faster Decisions when it Really Matters - A Global Steel Company Case Study
Alan Barnard, CEO, GoldrattResearch Labs, Singapore
Jaco-Ben Vosloo, Director Simulation and Technologies, GoldrattResearch Labs, South Africa

6:00 – 7:30 pm (Tuesday) - Poster Session

Posters

ID 048  Determining the Optimum Welding Material of 3CR12 Stainless Steel
R M C Molabe, E T Akinlabi and D M Madyira, University of Johannesburg, Aukland Park, Kingsway Campus, Johannesburg, South Africa

ID 068  A Systematic Literature Review of the Agile Methodology Applied During Construction Project Design
Mr Sixolle Mngonywa and Prof Annlize Marnewick, Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, Johannesburg
ID 078  Study of Tensile Behavior of S355JR Steel Treated by Burnishing -Approach by Experimental Plans
Mounira Bourebia, Abdellajj Ali Borini and Siham Achour, Industrial Technologies Research Center, CORTI, Chéraga, Algeria
Hamid Hamadache, Research Lab. in Adv Technologies and Mechanical Production (LRTAPM), Badji Mokhtar Annaba University, Annaba, Algeria
Lakhzar El Louar, Laboratory of Industrial Mechanics, Badji Mokhtar Annaba University, Annaba, Algeria

ID 084  The Impact of Breakdown Reduction Through Lean-TPM Methodologies and Energy Consumption in a Manufacturing Industry
Daniel Arusei and Bernard Maiyo, Moi University, Kenya

ID 107  Sustainable e-Operations for University Campus: G.I.S Contribution
Prof Islam El-Ghonaimy, Urban Designer and Landscape Architect Consultant, Department of Architecture, College of Fine Arts, Alexandria University, Egypt
Affiliated with Department of Architecture and Interior, College of Engineering, University of Bahrain, Bahrain

ID 109  Wearable Sensors for Remote Monitoring in Smart Public Hospital
Jerry Malapane, Prof. B S Paul and Dr. Wesley Doorsamy, Department of Electrical Engineering; University of Johannesburg, South Africa

ID 116  Hybrid framework to improve Small to Medium sized Manufacturers’ flexibility to market turbulence in the Mass-Customization era
Thierry Mukalay and John Trimble, Tshwane University of Technology, South Africa

ID 135  Obsolescence Management the Study of Power Utility in South Africa
N. Gantsho, JHC Pretorius and B Makanya, Department of Mechanical Engineering Science, Johannesburg University, South Africa

ID 155  A Review on Novel Techniques for Iron Recovery from Chalcopyrite (CuFeS2)
N. Poloko and G. Dahna Department of Chemicals, Materials & Metallurgical Engineering, Botswana International University of Science and Technology, Private Bag 16, Palapye, Botswana

ID 171  Product Development of a High Chrome White Cast Iron to Yield Consistent Physical and Mechanical Properties
Steven T. Mahungu, Daniel M. Sekotlong, A. Metal Casting Technology Station, Faculty of Engineering and the Built Environment, University of Johannesburg, Doornfontein, Johannesburg, RSA

ID 188  Investigation of Back Flashover Phenomena Regarding the Tower Footing Resistance
Mohammad Mehdi Khademi, Mehrdad Hajizadeh, Iman Safinejad and Farshid Daneshvar, Hormozgan Electric Power Distribution Company

ID 190  Detection of High Impedance Fault in Distribution Networks by using Time-Frequency Transform S and Artificial Neural Network
Iman safinejad, Mehrdad hajizadeh and Mohammad Medi, Khademi, Hormozgan electric distribution company, Iran, Hormozgan

ID 191  A Capacitated Clustering Heuristic for Large Datasets
Jacoba H. Bührmann and Ian Campbell, School of Mechanical, Industrial and Aeronautical Engineering, University of the Witwatersrand, Johannesburg, RSA
M. Montaz Ali, School of Computational and Applied Mathematics (CAM), University of the Witwatersrand, Johannesburg, RSA

ID 245  Power Line Tracking Unmanned Arial Vehicle (PLTUAV)
M. Solilo and W. Doorsamy, Department of Electrical and Electronic Engineering Technology, Faculty of Engineering and Built Environment, University of Johannesburg, South Africa
B.S. Paul, Institute for Intelligent Systems, University of Johannesburg, South Africa

ID 253  Characterization of an Auger-Type Pyrolysis Reactor using Induction Heating as an Energy Source
Daniel Erich Botha, Pyro Carbon Energy (Pty) Ltd, Gaborone, Botswana
Mmoloki Makoba, Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, Palapye, Botswana
László-Zsolt Szabó, Dept. of Chemical Engineering, Faculty of Chemistry and Chemical Engineering, University of Babeș-Bolyai, Cluj-Napoca, Romania
Thapelo Shomana, Baboloki Thatayaone Chiwara, Šerban Paul Agachi and Edison Muzenda Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, Palapye, Botswana

ID 266  Simulation Modeling for Construction Chemical Operations
Mojahid F. Saeed Osman, Department of Industrial Engineering, American University of Sharjah, Sharjah, United Arab Emirates
Samer Hijazi, Engineering Systems Management Program, American University of Sharjah, Sharjah, United Arab Emirates

ID 328  Review of Symmetricity in Taguchi’s Loss Function for Performance Measurement to Monitor Cost of Rejection
Anoop Pandey, Department of Mechanical Engineering, ABES Engineering College, Ghaziabad, UP, India

ID 336  Barriers That Influence the Efficiency of Energy Improvement in Manufacturing Industries of Pakistan
Sohaib Sharif Zafar, Government College University, Faisalabad, Pakistan

ID 352  Defect Formation and Surface Evolution of Thin Film Materials
Resego R Phiri and O. Philip Oladijo, Department of Chemical, Materials and Metallurgical Engineering, Botswana International University of Science and Technology, Private Bag 16, Palapye, Botswana
Department of Mechanical Engineering science, University of Johannesburg, Auckland Park, Kingsway Campus, Johannesburg, South Africa
Esther T. Akinlabi, Department of Mechanical Engineering science, University of Johannesburg, Kingsway Campus, Johannesburg, South Africa

ID 361  ANP-Based BOCR Analysis in Project Procurement Outsourcing
Meade Motalebi and Mohammad Mahdi Nasiri, School of Industrial Engineering, College of Engineering University of Tehran, Tehran, Iran
Aury Janeth Ibarguen Rengifo, Current Student Of Industrial Engineering, Faculty Of Engineering, Universidad Distrital Francisco Jose de Caldas, Bogotá D.C., Colombia
César Asraldo Vargas Hernández, Professor in Faculty of Engineering, Universidad Distrital Francisco Jose de Caldas, Bogotá D.C., Colombia

ID 420  Using Six-Sigma DMAIC Methodology to Systematically Improve the Performance of Physical Plants at an Educational Institute
I. Alsyouf, A. Salti, B. Hamed, A. Abdelsalam, Department of Industrial Management and Engineering Management, University of Sharjah, UAE

ID 470  Performance Assessment of a Reconfigurable Vibrating Screen Using Finite Element Analysis and Experimental Approach
Boitumelo Ramatsetse and Khumbulani Mpofu, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa

ID 471  Design of an Energy Efficiency Implementation Strategy using Resource Efficient Cleaner Production
Gaby Gamede, Khumbulani Mpofu and OT Adenuga, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa

ID 472  Mathematical Modelling for the Optimal Design of Municipal Solid Waste Transfer Station: A Case Study of the City of Ekurhuleni
Giovani M. Monzambe, Khumbulani Mpofu and Afolabi Damiyan, Dept. of Industrial Engineering, Tshwane University of Technology, Pretoria, RSA

ID 473  Design and Simulation of a Product-Service Integrated Procurement Systems
T. Shihunda, Khumbulani Mpofu and OT Adenuga, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, RSA

ID 474  Technological Tools and Application Platform for Successful Development of Reconfigurable Machine Tools
V. Sianda, Khumbulani Mpofu and J. Trimble, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa

ID 475  The Application of Scrum and Lean Software Development by Universities
XN Skosana and Khumbulani Mpofu, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa

ID 476  Student Perceptions of the Entrepreneurial Mindset within Capstone Design Projects
Ahad Ali and Don Reimer, Lawrence Technological University, Michigan, USA

ID 480  Industry 4.0 – USA vs. EU
Rocksana Ahmed, Lawrence Technological University, Michigan, USA

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October 31, 2018 (Wednesday)

Session: 8:00 – 9:30 am

8:00 – 9:30, WEDNESDAY  Global Engineering Education IV  Spartan 2

Session Chair: Deborah Oluwafunke Adedokun, Joseph Ayo Babalola University, Ikeji-Arakeji, Nigeria

8:00 – 8:30 (Wednesday)

Dr. Imad Alsyouf
Associate Professor
Sustainability Office, Director
Industrial Engineering & Engineering Management Department
College of Engineering
University of Sharjah
United Arab Emirates (UAE)

ID 416  Monitoring and Assessing the Impact of Implementing ISO 55000 in an Educational Institute
Sadeque Hamdan, Sustainable Engineering Asset Management (SEAM) Research Group
Maitha Alsuwaidi, Department of Industrial Engineering and Engineering Management, University of Sharjah, Sharjah, 27272, UAE
Imad Alsyouf and Mohammad Shamsuzzaman, Sustainable Engineering Asset Management (SEAM) Research Group
Department of Industrial Engineering and Engineering Management, University of Sharjah, Sharjah, 27272, UAE

8:30 – 9:00 (Wednesday)

Deborah Oluwafunke Adedokun
Lecturer
Department of Building & Quantity Surveying
College of Environmental Sciences
Joseph Ayo Babalola University
Ikeji-Arakeji, Nigeria

ID 064  Influence of the Consultants Related Factors on the Performance of Selected Tertiary Educational Building (TEB) Projects in Nigeria
9:00 – 9:30 (Wednesday)

TBA

8:00 – 9:30, WEDNESDAY  Industry Solutions IV  Spartan 3

Session Chair: Mohamed Sameer Hoosain, University of Johannesburg (UJ), South Africa

8:00 – 8:30 (Wednesday)

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<th>Mohamed Sameer Hoosain</th>
<th>Dr. Babu Sena Paul</th>
<th>Wesley Doorsamy</th>
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<td>Post-Graduate Researcher</td>
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8:30 – 9:00 (Wednesday)

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<th>Professor Sunday Olayinka Oyedepo</th>
<th>Dr. Isaac O.S. Fayomi</th>
<th>Engineer Dirisu Joseph</th>
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ID 349  Review of Building Ceilings in the Trend of Technological Advancement
O Dirisu and O.S. I Fayomi, Department of Mechanical Engineering, Covenant University, Ota, Ogun State, Nigeria.
Department of Chemical, Metallurgical and Materials Engineering, Tshwane University of Technology, Pretoria, South Africa.

9:00 – 9:30 (Wednesday)

William Kelly
Rydawi Fish Farms
Muldersdrift, Johannesburg, South Africa

8:00 – 9:30, WEDNESDAY  Energy  Spartan 4

Session Chair: Giovanna Andrea Pinilla-De La Cruz, VEBIC – Vaasa Energy Business Innovation Centre, University of Vaasa Vaasa, Finland

ID 228  Enhancing Agriculture Productivity using Solar Irrigation Technology: Soy Beans Farming in Namibia
Ndeulita Naukushu, Department of Quality and Operations Management, University of Johannesburg, Akademie Road, Aucklandpark, South Africa

ID 205  Evaluating the Energy Efficiency of Coal Fired Furnace based on Rural Foundry Design and Material Selections in Limpopo Province
Kulani Mageza, Metal Casting Technology Station, School of Mining, Metallurgy and Chemical Engineering, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
Antoine F. Mulaba-Bafubiandi, Mineral Processing and Technology Research Center, Department of Metallurgy, School of Mining, Metallurgy and Chemical Engineering, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 314  Long-Term Electricity Demand Forecasting Using a Generalised Additive Mixed Quantile Averaging (GAMMQV) Model
Paul Mokilane and Pravesh Debba, Council for Scientific and Industrial Research, Pretoria, South Africa and School of Statistics and Actuarial Science, University of the Witwatersrand, South Africa
V.S.S. Yadavalli, Department of Industrial and Systems Engineering, School of Engineering, University of Pretoria, South Africa
Caston Sigauke, University of Venda, University Road, Thohoyandou, Limpopo Department of Statistics Limpopo, South Africa

ID 080  New Insights for Decentralised Waste-To-Energy Systems in Small to Medium-Scale: Incineration and Gasification
Giovanna Andrea Pinilla-De La Cruz and Monica Julieth Valencia Botero, VEBIC – Vaasa Energy Business Innovation Centre, University of Vaasa Vaasa, Wolfbffntie, Finland
Jussi Kantola, School of Technology and Innovations, University of Vaasa Vaasa, Wolfbffntie, Finland

ID 111  Operations and Maintenance of CSIR Photovoltaic Plants
Mudau Unarine Bridget and Nithin Isaac, Council for Scientific and Industrial Research, Energy Autonomous Campus, Pretoria, South Africa

ID 077  Performance Investigation and Construction of a Traveling Wave Thermo-Acoustic Engine
Serge Balonji and L.K. Tartibu, Mechanical Engineering Technology Department, University of Johannesburg, South Africa
T.C. Jen, Mechanical Engineering Science, University of Johannesburg, Auckland Park Campus, Johannesburg, South Africa
8:00 – 9:30, WEDNESDAY    Construction Management    Acropolis 2

Session Chair: Temidayo O., University of Johannesburg, South Africa

ID 246  Engineering Properties of Black Cotton Soil Stabilized with Plantain Peal Powder
Oluwafemi Ifetayo and Aigbavboa Clinton, Postgraduate School of Engineering Management, University of Johannesburg and Department of Construction Management and Quantity Surveying, University of Johannesburg, South African, RSA
Akintende J.T Civil Engineering Department, The federal polytechnic, Ado-Ekiti, Ekiti State, Nigeria

ID 075  Factors Causing Conflicts in South African Construction Industry - A Review
Benjamin Sun camouflage Adeyemo, Clinton Aigbavboa, Department of Construction Management, University of Johannesburg, South Africa

ID 110  Factors Contributing to the Failure of Emerging Construction Companies in South Africa
Benito Novela, Annlizé Marmewick and Hannelie Nel, Post-Graduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 401  Factors Influencing Performance of South African Construction Industry: A Case of Limpopo Province
Khotso Dithobe, Clinton Aigbavboa, Ayodeji Oke and Marvellous Akani Muyambu, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 102  Fusing RFID with Mobile Technology for Enhanced Safety of Construction Project Team Members
Temidayo O., Osunsanmi Adeyemi, Ayodeji E., Oke and Clinton O., Aigbavboa, Sustainable Human Settlement and Construction Research Centre, University of Johannesburg, South Africa

8:00 – 9:30, WEDNESDAY    Environmental Engineering    Acropolis 3

Session Chair: Edison Muzenda, Botswana International University of Science and Technology, Palapye, Botswana

ID 419  Conditioned Upshots of Permeation Rates as a Function of Vadose Zone Effect in Engineered Landfill Clayey Medium
Emmanuel Emem-Obong Aghenyoku and Edison Muzenda, Department of Chemical Engineering Technology, University of Johannesburg, Johannesburg, Doornfontein, 2028, South Africa
Edison Muzenda, Chemical, Materials and Metallurgical Engineering Department, Botswana International University of Science and Technology, Palapye, Botswana

ID 413  Exploring Salt Reaction on Buildings along Coastal Area in Lagos State, Nigeria – A Review
Emmanuel Aghimien, Department of Architecture, Federal University of Technology, Akure, Nigeria
Clinton Aigbavboa, and Douglas Aghimien, Sustainable Human Settlement and Construction Research Centre, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 388  Ground Water Potential Zones Investigation Using Ground Magnetic Survey in South Africa
Ratshiedana P.E, Nwobodo-Anyadiegwu Nkeiruka Eveth and Kidoge Ibrahimu, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

8:00 – 9:30, WEDNESDAY    Quality Control and Management    Acropolis 4

Session Chair: Jolanda Becker, University of Stellenbosch, Stellenbosch, South Africa

ID 195  Analysing the Impact of Service Quality on Business Competitiveness
Khathutshelo Mushavanamadi and Oratile Neo Ralthagane, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 167  Implementing a Quality Management System to Improve Customer Satisfaction: A Study of a Medical Device company
Nombulelo Gqamane and Nita Sukdeo, School of Mechanical and Industrial Engineering, Department of Quality and Operations Management, University of Johannesburg, Gauteng, South Africa

ID 103  Improving Quality by implementing Juran's Trilogy
Zanele Mpanza, Department of Mechanical and Industrial Engineering, University of Johannesburg, Johannesburg, South Africa

ID 125  Negotiating Quality in Curriculum Development
Ngaka Mosia, Department of Mechanical and Industrial Engineering, University of Johannesburg, Gauteng, South Africa

Jolanda Becker and Wynand van Dyk, Industrial Engineering Department, University of Stellenbosch, Stellenbosch, South Africa

8:00 – 9:30, WEDNESDAY    Operations Management    Acropolis 5

Session Chair: Sundaravalli Narayanaswami, Indian Institute of Management, Ahmedabad, INDIA

ID 403  An Analysis Of The Internal Organizational Processes And Their Impact On Project Delays - A Case Study On A South African University and the Challenges Faced By Project Managers When Delivering Projects
Eveth Nkeiruka Nwobodo-Anyadiegwu, Nyiko Apathia Baloyi-Sindane and Charles Mbohwa, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa
IEOM Pretoria Conference  PARALLEL SESSIONS  October 30-November 1, 2018

ID 242  Enhancing Food Security in Sub-Saharan Africa: The Role and Impact of Food Safety
Leutle Radingoane, Kehinde Sobiyi and Nelson Sizwe Madonsela, University of Johannesburg, South Africa

ID 240  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, South Africa

ID 105  Root Cause Analysis for Fuel Losses in Bulk Oil Storage Tanks
Norman Gwangwava and Taboka Motlhabane, Botswana International University of Science and Technology, Botswana
Richard Addo-Tenkorang, Aalborg University, Centre for Industrial Production, Department of Materials & Production, Denmark
Enoch Ogunmuyiwa and Albert Ude, Botswana International University of Science and Technology, Botswana
William Msekiwa Goriwondo, Faculty of Industrial Technology, National University of Science and Technology (NUST), Ascot, Bulawayo, Zimbabwe

9:40 – 11:00 am: Wednesday Morning Keynote I & II – Spartan I Ballroom

9:40 – 10:20 am: Wednesday Morning Keynote I
Professor Angina Parekh
Deputy Vice Chancellor: Academic, University of Johannesburg, South Africa
Former Special Advisor on Higher Education to the Minister of Education

10:20 – 11:00 am: Wednesday Morning Keynote II
Dr. Abu Masud, P.E.
Professor Emeritus, Department of Industrial and Manufacturing Engineering
Wichita State University, Wichita, Kansas, USA
“Student Learning: Assessment and Improvement”

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

11:30 – 1:00 am: Wednesday Keynote III & IV – Spartan I Ballroom

9:40 – 10:20 am: Wednesday Morning Keynote III
Arthur Mutambara
Former Deputy Prime Minister of Zimbabwe
Visiting Full Professor at the University of Johannesburg

10:20 – 11:00 am: Wednesday Morning Keynote IV
AAA. Atayero, Ph.D.
Vice Chancellor, Covenant University
Ota, Ogun State, Nigeria

Session – Wednesday (October 31): 2:30 – 4:00 pm

2:30 – 4:00, WEDNESDAY  Global Engineering Education V  Spartan 2
Session Chair: Matimba Mkansi, University of the Witwatersrand, Johannesburg, South Africa

2:30 – 3:00 (Wednesday)
Didier ILUNGA
Researcher, Civil Engineering
University of Johannesburg, South Africa

ID 056  Experimental Investigation of Water Leakages through a Longitudinal Crack due to Expansion of the Pipe Material under Pressure
D. Ilunga, M.O. Dinka and D. Madyira, University of Johannesburg, South Africa

3:00 – 3:30 (Wednesday)
Jonathan Mkansi, Hannelie Nel and Annlizé Marnewick
Post-Graduate School of Engineering Management
Faculty of Engineering and the Built Environment
University of Johannesburg, Auckland Park, South Africa

ID 099  Lack of Training Opportunities in South African Foundries and the Impact on the Number of Engineering Metallurgy Graduates
Jonathan Mkansi, Hannelie Nel and Annlizé Marnewick, Post-Graduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa
2:30 – 4:00, WEDNESDAY  Reliability and Maintenance  Spartan 3
Session Chair: Venkata S.S. Yadavalli, University of Pretoria, South Africa

ID 265  A Review of Maintenance Management Systems for Public Institution Buildings in Ghana
Mensah David, Department of Building Technology, Cape Coast Technical University, Cape Coast, Ghana
Aigbavboa Clinton and Thwala Wellington Didibhuku, Faculty of Engineering and Built Environment, Department of Construction Management and Quantity Surveying, University of Johannesburg, South Africa

ID 421  Availability Analysis of Oil Production Systems
Charles Mbohwa, Department of Quality and Operations Management, University of Johannesburg, South Africa
Paul A. Ozor, Department of Quality and Operations Management, University of Johannesburg, South Africa and Department of Mechanical Engineering-Industrial Engineering and Management, University of Nigeria Nsukka, Nigeria

2:30 – 4:00, WEDNESDAY  Manufacturing  Spartan 4
Session Chair: Aworinde Abraham Kehinde, Covenant University, Ota, Nigeria

ID 200  Integration between Production Planning, Quality and Sales
Mamoletsi Winnie Nkadimeng, Zakaria Yahia and Anup Pradhan, Department of Quality and Operations Management, University of Johannesburg, South Africa

ID 308  Mechanical Characterisation and Modelling of a Pulverised Palm Kernel Shell based Spur Gear
Olabisi I. Adeyemi, Eyere Emagbetere and Ufuoma B. Oreko, Department of Mechanical Engineering, Federal University of Petroleum Resources, Effurun, Nigeria
Aworinde Abraham Kehinde, Adeosun Samson Oluropo and Oyawale Adekunle Festus, Department of Mechanical Engineering, Covenant University, Ota, Nigeria

ID 310  Mechanical Strength and Biocompatibility Properties of Materials for Bone Internal Fixation: A Brief Overview
Aworinde Abraham Kehinde, Adeosun Samson Oluropo and Oyawale Adekunle, Department of Mechanical Engineering, Federal University of Petroleum Resources, Effurun, Nigeria
Esther Titilayo Akinlabi, Department of Mechanical Engineering Science, University of Johannesburg, South Africa
Eyere Emagbetere, Department of Mechanical Engineering, Federal University of Petroleum Resources, Effurun, Nigeria

ID 424  Dimensional Analysis of Natural Vibrations of Planar Multilink Flexible Robots with Elastic Constraints at Actuator Gearhead Shaft–Link Couplings
Francis Kunzi Tekweme, Department of Mechanical and Industrial Engineering, University of Johannesburg, Johannesburg, RSA

2:30 – 4:00, WEDNESDAY  Construction Management  Acropolis 2
Session Chair: Joseph Akinola, The Federal University of Technology, Akure, Nigeria

ID 019  Impact of Construction Design on Health and Safety In Tertiary Institutions; Lecturer And Student's Perspectives.
Mayowa, I. Adegioriola, Austin, C. Otegbelu, Department of Estate Management University of Lagos Nigeria
Temidayo, O. Osunsanmi, Department of Construction Management and Quantity Surveying University of Johannesburg, South Africa

ID 269  Impact of Multiskilling on Quantity Surveyors’ Service Delivery in Nigeria
Joseph Akinola and Ayodeji Oke, Dept. of Quantity Surveying, School of Environmental Technology, Federal University of Technology, Akure, Nigeria

ID 414  Prefabrication in the South African Construction Industry – Challenges and Solutions
ID 076 The Influence of Stakeholders' Relationship on Construction Project Success
Edoghogho Ogbefun, Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa
Jan-Harm C Pretorius, Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

2:30 – 4:00, WEDNESDAY Energy Acropolis 3
Session Chair: Bantubenzani Nelson Mdlolo, DUT, South Africa

ID 006 Situational Analysis for Producing Biomass Charcoal Briquettes in Zimbabwe
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 Process Engineering, Manicaland State University of Applied Sciences, Zimbabwe
E. Mahofa and A. Fungura, Department of Chemical and Process Systems Engineering, Harare Institute of Technology, Zimbabwe
C. Mbohwa and 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
Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, Palapye, Botswana
M. Mpeta, Department of Environmental Engineering, Faculty of Engineering, Chinhoyi University of Technology, Zimbabwe

ID 121 The Effects of High Electricity Demand in KZN
Bantubenzani Nelson Mdlolo, DUT, South Africa

ID 011 Towards Cleaner Power Production with Repowering of Coal Power Plants: A Critical Literature Review
Irene Kamutero and John A. Trimble, Department of Industrial Engineering, Tshwane University of Technology, South Africa

ID 247 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, RSA

ID 189 Analyzing Human Factors in Fitness for Service Assessments – A Boiler Case Study
Mfundo Simangaliso Nkosi, Kapil Gupta and Madindwa Mashinini, Mechanical and Industrial Engineering Technology, University of Johannesburg, South Africa

ID 062 Customer Pairwise Fit Matrix Approach to Grouping of Customers for Garment Sizing
Adekunle Kolawole and Oliver Ekepre Charles-Owaba, Department of Industrial and Production Engineering, University of Ibadan, Ibadan, Nigeria

ID 387 The Exploration of Modern Noise Control Measures for Mining Operations
Prof. Rigard J. Steenkamp, Department of Operations Management, College of Economic and Management Sciences, University of South Africa (UNISA), Unisa, Pretoria, South Africa

ID 053 Walking/Working Surface 'System Integrity' Considerations during Maintenance
Gerard A. Davis, Department of Industrial and Systems Engineering, Samuel Ginn College of Engineering, Auburn University, AL, USA

ID 138 The Optimization of Container Stacking Process Under the Impact of Synchronization of Seaport Container Terminal Operations
Sarma Yadavalli, Olufemi Adetunji and Rafid B Dawood Al Rikabi, Department of Industrial and Systems Engineering, University of Pretoria, RSA

ID 145 Validation of Criteria for Service Delivery Performance Assessment Tools
Oluymoi Ajayi and Marne De Vries Department of Industrial and Systems Engineering University of Pretoria Pretoria, South Africa

ID 267 Wealth Creation through Operations: A Framework Based on Case Studies
N. Ravichandran, Professor, Indian Institute of Management, Ahmedabad, India

ID 172 Optimization-based Scheduling of Ingula Pumped Storage Plant under Demand Uncertainty
Zakaria Yahia and Pule Kholopane, Department of Quality and Operations Management, University of Johannesburg Johannesburg, South Africa

ID 425 Does Gender Inequality Affect Productivity in the Printing Industry? Unisa Press in Retrospect
Gaongalelewe C. Mothoagae, Paul A. Ozor, Charles Mbohwa, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

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Session Chair: Aluwani Percy Ramabulana, Dataqwig and Mudzi Energy and Logistics T/A Mudzi Transport Solutions

2:30 – 3:00 (Wednesday)

Nico Landman  
Head of Didactic - SADC+ (EAC)  
Festo  
Isando, Johannesburg, South Africa  
Presentation Title: Qualification for the Fourth Industrial Revolution?

3:00 - 3:30 (Wednesday)

Mr. Aluwani Percy Ramabulana  
Chairman / Project Leader / Board Member  
Dataqwig and Mudzi Energy and Logistics T/A Mudzi Transport Solutions  
Johannesburg, South Africa

4:00 – 4:30 pm – Networking Break

Session – Wednesday (October 31): 4:30 – 6:00 pm

4:30 – 6:00, WEDNESDAY Global Engineering Education VI Spartan 2

Session Chair: Christian Amaechi Bolu, Covenant University, Ota, Nigeria

4:30 pm – 5:00 pm (Wednesday)

Dr. Imad Alsyouf  
Associate Professor and Sustainability Office, Director  
Industrial Engineering & Engineering Management Department  
University of Sharjah, United Arab Emirates (UAE)

ID 420 Using Six-Sigma DMAIC Methodology to Systematically Improve the Performance of Physical Plants at an Educational Institute  
I. Alsyouf, A. Salti, B. Hamed, A. Abdelsalam, Dept. of Industrial Management and Engineering Management, University of Sharjah, Sharjah, UAE

5:00 pm – 5:30 pm (Wednesday)

Dr. Joe E. Amadi-Echendu  
Professor, Engineering and Technology Management  
University of Pretoria, South Africa  
Director, Institute of Engineering Technology and Innovation Management, UNIPORT

5:30 pm – 6:00 pm (Wednesday)

Professor Christian Amaechi Bolu, FNSE, FAEng  
Dean, College of Engineering  
Covenant University, Ota, Nigeria

4:30 – 6:00, WEDNESDAY Production Planning and Management Spartan 3

Session Chair: Enesi Yekini Salawu, Department of Mechanical Engineering, Covenant University, Ota, Nigeria

ID 139 Comparative Analysis of Different Forecasting Techniques for Ford Mustang Sales Data  
Ayyagari Venkata Ramani, Master of Engineering Management, Lawrence Technological University Southfield, MI, USA

ID 154 General Study for Characterization and Structural Property Investigation on Diorite Rocks  
Mr Gaesenngwe Gaesenngwe and Dr. G. Dahna, Department of Chemical, Materials and Metallurgical Engineering, Botswana International University of Science and Technology, Palapye, Botswana

ID 426 On the Applied Research Concept Towards Becoming a Winning University  
Enesi Yekini Salawu, Department of Mechanical Engineering, Covenant University, Ota, Nigeria  
Oyenike Oluyemi Fayomi, Department of Political Science, Covenant University, Ota, Nigeria  
Ojo Sunday Fayomi, Department of Mechanical Engineering, Covenant University, Ota, Nigeria  
David Omole, Department of Civil Engineering, Covenant University, Ota, Nigeria

ID 243 Identifying Causes of Low Productivity in the Printing Industry  
Enock Philani Mtshali, Kgashane Stephen Nyakala, Thinandahva Thomas Munyai, Kemlall Ramdass, Department of Operations Management Tshwane University of Technology, South Africa

4:30 – 6:00, WEDNESDAY Manufacturing Spartan 4

Session Chair: K. Mpofu, Tshwane University of Technology, Pretoria, South Africa.

ID 065 Thin Films in Tribology  
Resego R Phiri and O. Philip Oladijo, Department of Chemical, Materials and Metallurgical Engineering, Botswana International University of Science and Technology, Palapye, Botswana  
Esther T. Akinlabi, Department of Mechanical Engineering Science, University of Johannesburg, Kingsway Campus, Johannesburg, South Africa

ID 333 Active Supervision: A clothing industry Dilemma
ID 199  Application of Computer Aided Technologies in the Clothing and Textile Companies in Gauteng
Forbes Chiromo, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, Johannesburg, South Africa
Andre Nel, Department of Mechanical Engineering Science, University of Johannesburg, Johannesburg, South Africa

ID 096  Development of a Reconfigurable Assembly Fixture
Daniyan, I. A and Mpofu, K, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa
Ajetomobi, O. R. and Adeodu, A. O., Department of Mechanical & Mechatronics Engineering, Afe Babalola University, Ado Ekiti, Nigeria
Daniyan, O. L., Centre for Basic Space Science, University of Nigeria, Nsukka, Nigeria

4:30 – 6:00, WEDNESDAY  Data Analytics
Session Chair: Chim Chwee Wong, Universiti Tunku Abdul Rahman, Kuala Lumpur, Malaysia

ID 278  A Study into the Effects of the Milling Time on the Physiochemical and Morphological Characteristics of Cow Bone Powder (CBP)
Omolayo M. Ikumapayi and Esther T. Akinlabi, Department of Mechanical Engineering Science, University of Johannesburg, South Africa
Modern and Advanced Manufacturing Systems (MAMS) Research Group, University of Johannesburg, South Africa

ID 083  A Taxonomic Classification for Concurrent Control Chart Pattern Recognition
Rita Peñabaena-Niebles and Ethel Garcia, Department of Industrial Engineering, Universidad del Norte, Barranquilla, Colombia

ID 169  Big-data for Interactive Advertisement: Few Propositions
Harshmit Kaur Saluja, School of Humanities and Social Sciences, Harcourt Butler Technical University, Kanpur, U.P., India
R.R.K. Sharma, Sanjay Mittal Chair Professor (HAG Scale), Department of Industrial Management and Engineering, Indian Institute of Technology Kanpur, Kanpur, U.P., India
Vinod Kumar Yadav, School of Humanities and Social Sciences, Harcourt Butler Technical University, Kanpur, U.P., India
Vinayak Drave, Department of Industrial Management and Engineering, Indian Institute of Technology, Kanpur, U.P., India

ID 237  Characterizations of the Evolving Properties during the Milling Time of Wood Fly Ash Nanoparticles (WFA-NPs)
Omolayo M. Ikumapayi and Esther T. Akinlabi, Department of Mechanical Engineering Science, University of Johannesburg, Auckland Park Kingsway Campus, Johannesburg, South Africa
Modern and Advanced Manufacturing Systems (MAMS) Research Group, University of Johannesburg

ID 054  Time Series Forecast of Sea Surface Temperature for Hokkaido Fishery Ports along Coastal Line of Japan Sea
Chim Chwee WONG, LKC Faculty of Engineering and Science, Universiti Tunku Abdul Rahman, Kuala Lumpur, Malaysia
Junichi KISHIGAMI, Department of Information and Electronic Engineering, Muroran Institute of Technology, Hokkaido, Japan

4:30 – 6:00, WEDNESDAY  Design and Analysis
Session Chair: Ishola Felix A, Covenant University, Ota, Ogun State, Nigeria

ID 223  Design of a Fish Descaling Machine for Small and Medium Scale Farmers
Joyous Shoko, 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

ID 222  Design of an Automated Concrete Block Making Machine – A Case of Developing Countries
Mundeta Mirirai, 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, Johannesburg, South Africa

ID 058  Design of Thick Porridge Mixing Agitator for Commercial Kitchens
Ignatius Madanhire, Kumbi Mugwindiri and Tanyaradzwa Virukai, University of Zimbabwe, Department 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

ID 118  Development of an Effective Self-Cleaning System to Minimize Fouling in Heat Exchangers
Wilson R. Nyemba and Simon Chingwa, Department of Mechanical Engineering Science, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park 2006, Johannesburg, South Africa
Isheanesu Zimba, Department of Mechanical Engineering, University of Zimbabwe, Mount Pleasant, Harare, Zimbabwe
Charles Mbohwa, Professor of Sustainability Engineering, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, Johannesburg, South Africa

ID 152  Dimensional Analysis of Natural Vibrations of Planar Multilink Flexible Robots with Elastic Constraints at Actuator Gearhead Shaft –Link Couplings
Francis Kunzi Tekweme, Department of Mechanical and Industrial Engineering, University of Johannesburg, Johannesburg, RSA

ID 312  Parameters for Design and Construction of a Pilot Scale Pyrolysis Gas-Furnace
Ishola Felix A, Oyawale F. A and Inegbenebor A. O, Mechanical Engineering Department, Covenant University, Ota, Ogun State, Nigeria

4:30 – 6:00, WEDNESDAY  Project Management
Session Chair: Steyn De Wet, Stellenbosch University, South Africa
ID 011  Flexibility and Rigidity in the Implementation of Project Management Concepts Flow in Research and Innovation Projects at Academic Institutions
Antoine F. Mulaba-Bafubiandi, Mineral Processing and Technology Research Centre, Department of Metallurgy, School of Mining, Metallurgy and Chemical Engineering, Faculty of Engineering and The Built Environment, University of Johannesburg, South Africa
Nnenesi A. Kgabi, Department of Civil and Environmental Engineering, Namibia University of Science and Technology, Windhoek, Namibia
Harmony Musiyairira, Department of Mining and Process Engineering, Namibia University of Science and Technology, Namibia

ID 166  Identifying and Analyzing the Most Important Fundamentals to Improve Project Management Performance in South Africa
Sambil Charles Mukwakungu and Matimba Davis Mabasa, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 192  Identifying the Most Common Issue in Project Management and how South African Firms Cope with it – A Case Study of Company X
Khathutshelo Mushavanamadi and Bruce Javani, Department of Quality and Operations Management Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 417  Project Cost Overrun in the South African Construction Sector: A Case Study of Johannesburg Metropolis
Ramaloko Mulalo, Kidogo Ibrahimu and Eveth Nwobodo-Anyadiegwu, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 164  The Effect of Business Processes Re-engineering on Improving Customer Satisfaction & Retention in the Manufacturing Industry
Sambil Charles Mukwakungu, Matimba Davis Mabasa, Tebogo Lucky Mamela and Semanga Mabuza, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

4:30 – 6:00, WEDNESDAY  Operations Research  Acropolis 5
Session Chair: Olusegun Kazeem Lekan, Federal University Dutsinma, Katsina, Katsina State, Nigeria

ID 168  Assessing the Implications of South Africa’s Integrated National Electrification Programme’s Restricted Electricity Supply Connections
Zakaria Yahia, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa
Kristy Langerman, Department of Geography, Environmental Management and Energy Studies, University of Johannesburg, South Africa

ID 218  Coordinated Scheduling of Multiple Households’ Appliances with Leveled Load Profiles and Consumers’ Preferences
Zakaria Yahia and Anup Pradhan, Department of Quality and Operations Management University of Johannesburg Johannesburg, South Africa

ID 020  Factors that Affect Implementation of Green Public Procurement in Local Government: A Case Study in the City of Johannesburg Municipality
Ernest Mutenda, Faculty of Engineering and the Built Environment University of Johannesburg, Auckland Park, South Africa

ID 412  Investigating the Risk Management Systems in the South African Banking Industry
Khathutshelo Mushavanamadi and Karen McGloin, Department of Quality and Operations Management, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 034  Reviewing Postponement in the South African Automobile Industry: A Literature Review Perspective
Polycarpe Feussi, University of Johannesburg/Lance d Afrique, South Africa

ID 415  Optimal Production Plan in Flour Mills of Nigeria Public Liability Company: Linear Programming and Sensitivity Analysis
Olusegun Kazeem Lekan, Oladejo Lukman Gbolagade, Ph.D and Sonny Emmanuel Braide, Department of Business Management, Faculty of Management Sciences, Federal University Dutsinma, Katsina, Katsina State, Nigeria

4:30 – 6:00, WEDNESDAY  Industry Solutions  Spartan 1
Session Chair: Olusegun Kazeem Lekan, Federal University Dutsinma, Katsina, Katsina State, Nigeria

4:30 - 5:00 (Wednesday)
Kubeshein Bhugwandin
Technology Strategy Manager
Eskom

Disruptive Innovations and the Changing Energy Landscape

5:30 - 6:00 (Wednesday)
Dudley Jura
Operations Manager: Coke & Chemicals
ArcelorMittal South Africa
Vanderbijlpark, Gauteng
South Africa

7:00 pm – 10:00 pm (Wednesday, October 31)
CONFERENCE AWARD DINNER
Spartan I Ballroom
November 1, 2018 (Thursday)

Session: 8:00 – 9:30 pm

8:00 – 9:30, THURSDAY  Global Engineering Education VII  Spartan 2
Session Chair: John Ikome, Vaal University of Technology, South Africa

8:00 – 8:30 (Thursday)

Dr. Anthea Amadi-Echendu
Senior Lecturer and Acting Chair of the Department of Operations Management
University of South Africa

8:30 – 9:00 (Thursday)

John Ikome
Lecturer, Department of Industrial Engineering and Operation Management
Vaal University of Technology, South Africa

9:00 – 9:30 (Thursday)
TBA

8:00 – 9:30, THURSDAY  Lean  Spartan 3
Session Chair: Sandeep Sharda, Rajasthan Technical University, Rawatbhata Road, Akelgarh, Kota, Rajasthan, India

Babedi Kufigwa, Norman Gwangwawa, Albert U. Ude, Department of Mechanical, Energy and Industrial Engineering, Botswana International University of Science and Technology, Palapye, Botswana
Richard Addo-Tenkorang, Aalborg University, Department of Materials & Production, Fibigerstræde, Aalborg, Denmark
Enoch N. Ogumuyiwa, Department of Chemical, Materials and Metallurgical Engineering, Botswana International University of Science and Technology, Palapye, Botswana

ID 197  Implementation of Lean Manufacturing within the South African Textile Industry
Violet Jacobs and Lungile Nyanga, Department of Industrial and Systems Engineering, Cape Peninsula University of Technology, Bellville, Cape Town, South Africa

8:00 – 9:30, THURSDAY  Information Systems and Information Technology  Spartan 4
Session Chair: Ozavize Banwo, School of Energy, Construction & Environment, Coventry University West Midlands, United Kingdom

Ozavize Banwo and George Agyekum-Mensah, School of Energy, Construction & Environment, Coventry University West Midlands, United Kingdom

ID 438  Implementation and Evaluation of a Cyber-Physical System for Industrial Applications
Mduomo Gama, Wesley Doorsamy and Paul Babusena, Dept. of Electrical and Electronic Engineering Technology, University of Johannesburg, RSA

ID 334  A Goal Programming Model for Production Planning in a Small and Medium Bottled Water Manufacturing Enterprise
Grace Mukondeleli Kanakana-Katumba, College of Science, Engineering and Technology University of South Africa, South Africa
Olasumbo Ayodeji Makinde, Operations Management Department, Tshwane University of Technology, Pretoria West, South Africa

8:00 – 9:30, THURSDAY  Transportation and Traffic  Acropolis 2
Session Chair: Anand Jaiswal, Indian Institute of Technology (BHU), Varanasi, India

ID 226  Effectiveness of Rea Vaya Bus Rapid Transit System (BRTS) in the City of Johannesburg
Thandekile Nqobile Khumalo and Aurobindo Ogra, Department of Town and Regional Planning, University of Johannesburg, Gauteng, South Africa

ID 216  Performance of BRTS Using Spatial Planning and Land Use Management Act (SPLUMA) Principles: A Case Study of City of Johannesburg
Matlou Agnes Setati and Aurobindo Ogra, Department of Town and Regional Planning, University of Johannesburg, Johannesburg, South Africa
<table>
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<tr>
<th>Session Chair</th>
<th>Title</th>
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<tbody>
<tr>
<td>Acropolis 3</td>
<td><strong>8:00 – 9:30, THURSDAY</strong> Sustainable Manufacturing</td>
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<tr>
<td>Alice E Matenga, National University of Science and Technology, Ascot, Bulawayo, Zimbabwe</td>
<td>ID 408 Characterization and Structural Investigation on Diorite Rocks of Botswana Gaesenngwe Gaesenngwe, G. Dahna and Gaesenngwe Gaesenngwe, Department of Chemical, Materials and Metallurgical Engineering, Botswana International University of Science and Technology, Palapye, Botswana</td>
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<td>Acropolis 4</td>
<td><strong>8:00 – 9:30, THURSDAY</strong> Modeling and Simulation</td>
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<td>Muhammad Ahsan, National University of Sciences and Technology, Islamabad, Pakistan</td>
<td>ID 087 Comparative Study of Experimental and Simulative (COMSOL) Results on Extended Heat Transfer Douw G. Faurie and Molelekoa J. Mosesane, Department of Chemical, Metallurgical and Material Engineering, Tshwane University of Technology Pretoria, Republic of South Africa</td>
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<td>Acropolis 5</td>
<td><strong>8:00 – 9:30, THURSDAY</strong> Optimization</td>
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<td>Abdelrahman A. Mohamed, Cairo University, Egypt</td>
<td>ID 309 Step Algorithm to Solve Positive-Integer Type-Linear Programming Problem with Two Variables and n Linear Constraints Monal Vaishnani and Poonam Savsani, Department of Industrial Engineering, Pandit Deendayal Petroleum University, Gandhinagar, Gujarat, India</td>
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<td>ID 049 Comparison of Real-Coded Genetic Algorithm and Real-Coded Biogeography-Based Optimization, Global Unconstrained Optimization Algorithms Ayodele P Boglo, Carttelcom Nigeria Company Limited, Lagos, Nigeria Barend W Botha, Department of Engineering Management, Postgraduate School of Engineering Management, University of Johannesburg, RSA Babatunde A Sawyer, Department of Computer Science, University of Lagos, Akoka, Lagos, Nigeria</td>
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<td>ID 089 On the Capacitated Step-Fixed Charge Transportation and Facility Location Problem: A Local Search Heuristic Gbeminiyi John Oyewole and Olufemi Adetunji, Department of Industrial and Systems Engineering, University of Pretoria, Pretoria, South Africa</td>
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<td>ID 092 On the Facility Location and Fixed Charge Solid Transportation Problem: A Lagrangian Relaxation Heuristic Gbeminiyi John Oyewole and Olufemi Adetunji, Department of Industrial and Systems Engineering, University of Pretoria, Pretoria, South Africa</td>
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<td>ID 452 A Modification to Multi Objective NSGA II Optimization Algorithm Abdelrahman A. Mohamed, Mohamed Gadallah and Hesham A. Hegazi, Cairo University, Egypt</td>
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9:40 – 11:00 am – Thursday Morning Keynote I & II

9:40 – 10:20 am - Thursday Morning Keynote I
Dr. Sundaravalli Narayanaswami
Indian Institute of Management, Ahmedabad, India

10:20 – 11:00 am - Thursday Morning Keynote II
Eugén Ranft PrEng, PhD
Operations Manager
Eaton Electric (South Africa) (Pty) Ltd, Johannesburg, South Africa

Session – Thursday (November 1): 11:30 am – 1:00 pm

11:30 – 1:00, THURSDAY  Global Engineering Education VIII  Spartan 2
Session Chair: Prof. Thomas Tengen, Vaal University of Technology (VUT), South Africa

11:30 – 12:00 (Thursday)
Prof. Khumbulani Mpofu
Gibela Research Chair in Manufacturing and Skills Development
Professor – Industrial Engineering Department
Tshwane University of Technology (TUT), Pretoria, South Africa

12:00 – 12:30 (Thursday)
Prof. John Alfred Trimble
Professor, Department of Industrial Engineering
Tshwane University of Technology (TUT), Pretoria, South Africa

12:30 – 1:00 (Thursday)
Prof. Thomas Tengen
Associate Professor and Head
Department of Industrial Engineering and Operations Management
Vaal University of Technology (VUT), South Africa

11:30 – 1:00, THURSDAY  Industry Practices and Solutions  Spartan 3
Session Chair: Ana Arevalos, National University of Asuncion, San Lorenzo, Paraguay

ID 214  A Review of Metal Oxide Surge Arrester Models for Remote Monitoring Application
A. Dlamini, P. Bokoro, and W. Doorsamy, Department of Electrical and Electronic Engineering Technology, University of Johannesburg, South Africa

ID 137  Correlation between Future Energy Systems and Industrial Revolutions
Onu Peter and Charles Mbohwa, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 254  Impact of Managing Strikes, Industrial Manifestation for Industrial Harmony: Nigeria Perspective
Oluwafemi Ifetayo, Postgraduate School of Engineering Management, University of Johannesburg, South Africa, RSA
Aigbavboa Clinton, Department of Construction Management and Quantity Surveying, University of Johannesburg, South African, RSA
Oluwafemi Jesusetemi, Postgraduate School of Quality and Operations Management, University of Johannesburg, Auckland Park, South Africa

ID 238  Soybean Industry: A Review of Properties related to Mechanical Damage in Soybean seeds
Ana Arevalos and Eduardo Redondo, Lab. of Mechanics and Energy, Faculty of Engineering - National University of Asuncion, San Lorenzo, Paraguay

ID 131  The Interlink Between Sustainable Supply Chain Management and Technology Development in Industry
Onu Peter and Charles Mbohwa, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

11:30 – 1:00, THURSDAY  Computers and Computing  Spartan 4
Session Chair: Kamel Rouibah, Quantitative Methods and Information System Department, College of Business Administration, Kuwait

ID 127  Digital Game Based Learning in Industrial Engineering
N. Mosia, Department of Mechanical and Industrial Engineering, Science Campus, Florida, Gauteng, University of South Africa

ID 389  Mathematical Programming Formulation for Large-Scale Standing-Wave Thermo-Acoustic Refrigerator Design Optimization
L.K. Tartibu, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, Doornfontein Campus, South Africa
ID 354  Numerical Optimization of Air Quality and Airborne Infection Control in Healthcare Facility
Matlaweng Jan Magampa, Thokozane Kunene and Lagouge Tartibu, Dept of Mechanical Engineering Technology, University of Johannesburg, RSA

ID 126 Mobile Learning Model Adoption in an ODeL Setting
Ngaka Mosia, College of Science, Engineering and Technology, school of Engineering, Department of Mechanical and Industrial Engineering, Florida, Unisa Campus, Florida, Gauteng Province, South Africa, 1732

ID 074 Perceived Obstacles Toward Mobile Government: Findings from a Qualitative Study
Kamel Rouibah and Hasan Qurban, Quantitative Methods and Information System Department, College of Business Administration, Kuwait

11:30 – 1:00, THURSDAY  Business Management  Acropolis 2
Session Chair: Romat Saragih, Telkom University, Bandung, Indonesia

ID 313 Engaging Generation 'Y' Employees and their Impact on the Sustainability of an Organization
Eric Amankwa, University of Johannesburg, Johannesburg, South Africa

ID 335 Ethical Leadership's Effect on Employee Discipline: Case of An Indonesian Telecommunication Company
Romat Saragih, Mahendra Fakhri, Mahir Pradana, Alini Gilang and Gusti Ayu Vidjashesa, Telkom University, Bandung, Indonesia

ID 277 Measurement the Customer Life Time Value with Utilization of Fuzzy Delphi Analytical Hierarchy Process and Hierarchical Cluster in RFM Model
Azarnoush Ansari, Assistant Professor, Department of Management, University of Isfahan, Isfahan, Iran

ID 211 Sustainability as a Vital Leadership Profeciency
Eric Amankwa, Stephen Akinladi and Abey Bayode, University of Johannesburg, Johannesburg, South Africa

11:30 – 1:00, THURSDAY  Sustainability and Green Systems  Acropolis 3
Session Chair: Abrahams Mwasha, The University of the West Indies, St. Augustine, Trinidad

ID 291 Innovative Technologies of Waste Recycling With Production of High-Performance Panels
Abrahams Mwasha and Dillon Ramdhanie, Department of Civil Engineering, The University of the West Indies, St. Augustine, Trinidad

ID 003 Potential for Re-refining of Used Lubricating Oils for Re-use Using Zinc Dialkyl Dithiosulphate as an Additive
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
T. Nengiwa, Dept. of Chemical and Process Systems Engineering, School of Engineering and Technology, Harare Institute of Technology, Zimbabwe
C. Mbohwa and 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
M. Mpeta, Department of Chemical Engineering, School of Engineering, Chinhoyi University of Technology, Zimbabwe

ID 045 The Socio-Economic Implication of 2nd Generation Biofuels in Southern Africa: A Critical Review
Gratitude Charis, Gwiranai Danha and Edison Muzenda, Department of Chemical, Materials and Metallurgical Engineering, College of Engineering and Technology, Botswana International University of Science and Technology, Palapye, Botswana

ID 002 Utilization of Agro Waste Bio Adsorbents in Textile Wastewater Treatment
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
Department of Chemical and Process Engineering, Faculty of Engineering, Manicaland State University of Applied Sciences, Zimbabwe
C. Mbohwa and E. Muzenda, BioEnergy and Environmental Technology Centre, Department of Engineering and the Built Environment, University of Johannesburg, South Africa
Department of Chemical, Materials and Metallurgical Engineering, Faculty of Engineering and Technology, Botswana International University of Science and Technology, Palapye, Botswana

11:30 – 1:00, THURSDAY  Business Management  Acropolis 4
Session Chair: Mahsa Ghandehari, Department of Management, University of Isfahan, Isfahan, Iran

ID 360 The Effects of Manufacturing and Service Sectors on Economic Growth in Nigeria
Jesusetemi Oluwafemi, Department of Quality and Operations Management, University of Johannesburg, Apk Campus, RSA
Afolabi Babatunde, Afe Babalola University, Ado Ekiti, Nigeria

ID 224 The Emerging Roles of HR Professionals: Green Human Resources Management (Green HRM) Perspective
Sabnam Jahan, Associate Professor, Department of Management, University of Dhaka, Bangladesh

ID 079 A Predictive Approach for Effective Management and Planning within the Energy Sector of South Africa
L.K. Tartibu, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, Doornfontein Campus, South Africa
| ID 066 | A Resource Allocation Problem under Risk Conditions  
Mahsa Ghandehari, Department of Management, University of Isfahan, Isfahan, Iran  
Mohammad Hossein Golkhani-Dorbati, Management Research Center, University of Isfahan, Isfahan, Iran |
| 11:30 – 1:00, THURSDAY | Waste Management | Acropolis 5 |
| Session Chair: Jorge Oyola, Department of Industrial Engineering, Universidad del Norte, Barranquilla, Atlántico 081007, Colombia |
| ID 143 | Combustion and Energy Content Comparison of Loose Biomass Briquettes Produced From Cow Dung and Cactus Binders  
Mikateko Reuben Shuma and Daniel M. Madyira, Department of Mechanical Engineering Science, University of Johannesburg, Kingsway campus, Auckland Park, RSA |
| ID 060 | Performance Comparison of Loose Biomass Briquettes Produced Using Cow Dung and Cactus Binders  
Mikateko Reuben Shuma and Daniel M. Madyira, Department of Mechanical Engineering Science, University of Johannesburg, RSA |
| ID 410 | Reduction of Anionic Chemical Contaminant Infusion through Engineered Clayey Medium  
Emmanuel Emem-Obong Agbenyeku and Edison Muzenda, Department of Chemical Engineering Technology, University of Johannesburg, RSA  
| ID 311 | Sustainable End-of-Life Tyre (EOLT) Management for Developing Countries – A Review  
Ishola, Felix A and Oyawale F. A, Mechanical Engineering Department, Covenant University, Ota, Ogun State, Nigeria  
Stephen A. Akinlabi, Mechanical Engineering Department, University of Johannesburg, Johannesburg, South Africa |
| ID 069 | The Ease of Leachability of Trace Minerals on From South African Coal Ash by Weak Acid  
Nkhumeleni Tshiongo-Makgwe, University of Johannesburg, Faculty of Engineering and the Built Environment, School of Mining, Metallurgy and Chemical Engineering, Department of Metallurgy, Minerals Processing and Technology Research Centre, South Africa, Wits, South Africa |
| 1:00 – 2:30 pm – Thursday Networking Lunch Buffet |
| 2:30 – 4:00, THURSDAY | Global Engineering Education IX | Spartan 2 |
| Session Chair: Grace Kanakana – Katumba, University of South Africa (UNISA), Unisa Science Campus, Florida, South Africa |
| Dr. Bolanle Tolulope Abe  
Senior Lecturer and Acting Academic Manager  
Department of Electrical Engineering  
Tshwane University of Technology  
eMalahleni campus, South Africa |
| Ms. Sebonkile Thaba  
Lecturer and Community Engagement Coordinator  
Department of Transport and Supply  
University of Johannesburg, South Africa |
| Dr Grace Kanakana – Katumba  
Deputy Executive Dean  
College of Science, Engineering and Technology  
University of South Africa (UNISA)  
Unisa Science Campus, Florida, South Africa |
| 2:30 – 4:00, THURSDAY | Artificial Intelligence | Spartan 3 |
| Session Chair: Santaram Venkannah, University of Mauritius Reduit, Republic of Mauritius |
| ID 124 | Characterization of Psychological Traits of South African Tribes and Its Impact on Sisr Integration  
Ajibo Chinenye Augustine and Babu Sena Paul, Institute for Intelligent Systems, University of Johannesburg, South Africa |
| ID 212 | A Reverse Logistics Network Optimization Model for Residual OTR Tires from the Mining Industry: A Colombian Case Study  
Jorge Oyola and René Amaya, Department of Industrial Engineering, Universidad del Norte, Barranquilla, Atlántico 081007, Colombia |
| ID 409 | Models for Infusion of Pollutant Species through Engineered Geocomposite Media from Destructed Polyethylene Membrane  
Emmanuel Emem-Obong Agbenyeku and Edison Muzenda, Department of Chemical Engineering Technology, University of Johannesburg, Johannesburg, Doornfontein, South Africa  
Edison Muzenda, Chemical, Materials and Metallurgical Engineering Department, Botswana International University of Science and Technology Palapye, Botswana |
ID 198  Autonomous Toddler Surveillance Robot
Santaram Venkannah and Dan Erappa, Mechanical and Production Engineering Department, University of Mauritius, Mauritius

2:30 – 4:00, THURSDAY  Automation and Agility  Spartan 4
Session Chair: Opeoluwa Akinradewo, University of Johannesburg, Johannesburg, South Africa

ID 276  Design and Prototyping of Autonomous Laser Cutting CNC Robot
Sekar Ravi, Department of Mechanical Engineering, Rajalakshmi Engineering College, Thandalam, Chennai, India

ID 122  Towards a Decolonized Human Machine Interface for a Rural Solar Bakery Management
Sune Von Solms, Johan Meyer, Emery Hassall and Charles Muranda, Electrical and Electronic Engineering Science, University of Johannesburg, Johannesburg, South Africa

ID 136  What has Industry 4.0 got to do with us? A Review of the Literature
Dennit Quewan Adams, Department of Industrial Engineering, Masters student at Tshwane University of Technology, Pretoria, South Africa
Prof. Khumbulani M. Mpolu, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa

ID 355  Willingness to Adopt Robotics and Construction Automation in the South African Construction Industry
Opeoluwa Akinradewo, Ayodeji Oke, Clinton Aigbavboa and Molau Mashangoane, Department of Construction Management and Quantity Surveying, University of Johannesburg, Johannesburg 2028, South Africa

2:30 – 4:00, THURSDAY  Entrepreneurship and Innovation  Acropolis 2
Session Chair: Islam Hamdi El-Ghonaimy, University of Bahrain, Isa Town, Bahrain

ID 085  Identifying Practices of Engagement in Innovation Platforms: Towards Understanding Innovation Platforms in Healthcare
Frederick Robert Peter Edlimann, Department of Industrial Engineering, University of Stellenbosch, South Africa
Sara S. Grobbelaar, Department of Industrial Engineering and DST-NRF Centre of Excellence in Scientometrics and Science, Technology and Innovation Policy (SciSTIP), University of Stellenbosch, South Africa

ID 026  Challenges Facing the Development of Sustainable Entrepreneurship in Burundi
Florence Nisabwe, Charisma University, South Africa

ID 012  Junior Mining as Innovation Entrepreneurship in Minerals Industry in South Africa
Antoine F. Mulaba-Bafubianti, Mineral Processing and Technology Research Centre, Department of Metallurgy, School of Mining, Metallurgy and Chemical Engineering, Faculty of Engineering and The Built Environment, University of Johannesburg, South Africa
Nirdesh Singh, Mineral Processing and Technology Research Centre, Department of Metallurgy, School of Mining, Metallurgy and Chemical Engineering, Faculty of Engineering and The Built Environment, University of Johannesburg, South Africa
Small Scale Mining Division, MINTEK, Randburg, Johannesburg, South Africa

ID 097  A Methodology for Case Study Research to Analyse Innovation Platforms in South African Healthcare Sector
Richmore A. Dondofema, Department of Industrial Engineering, Stellenbosch University, South Africa
Sara S. (Saartjie) Grobbelaar, Department of Industrial Engineering, Stellenbosch University and DST-NRF Centre of Excellence in Scientometrics and Science, Technology and Innovation Policy (SciSTIP), Stellenbosch University, South Africa

ID 106  Concomitant of Global Warming and Land Reclamation: Designing a New Interface between Human Kind and Sea
Islam Hamdi El-Ghonaimy, Urban Consultant, Department of Architecture and Interior Design, College of Engineering, University of Bahrain, Bahrain
Needa Javed, Researcher, Research assistant, Department of Architecture and Interior Design, College of Engineering - University of Bahrain

2:30 – 4:00, THURSDAY  Sustainability and Green Systems  Acropolis 3
Session Chair: Mohammed El Alami, Ibn Tofail University, Kenitra –Morocco

ID 252  A Critical Assessment of Sustainable Development Concept in the South African Construction Small Medium
Malingaka Maeng, Ndala Mulongo and Nemarumane Takalani, Faculty of Engineering and the Built Environment, University of Johannesburg, RSA

ID 290  Creating Sustainable Urban Environments through Retrofitting Initiatives - A Systems Theory Approach
Dennis Mark Laxton, DTS CC, South Africa

ID 153  Effect of Maintenance on Sustainability of Infrastructures
Ayodeji Oke, Adefayo Ogunbile and Oluseyi Awodele, Department of Quantity Surveying, School of Environmental Technology, The Federal University of Technology, Akure, Nigeria

ID 082  Injection of Renewable Energy into the Electricity Grid with intelligent Commands
Mohammed El Alami, Hamid Touijer, Mohamed Habibi and Seddik Bri, Laboratory of Electrical Engineering and Energy Systems (LGESE), Faculty of Science, Ibn Tofail University, Kenitra – Morocco

ID 327  Strategies for Sustainable Petroleum Processing
MP Sukumaran Nair, Center for Green Technology & Environment, India
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<td>2:30 – 4:00, THURSDAY</td>
<td>Six Sigma</td>
<td>Acropolis 4</td>
<td>Lidia Filus, Northeastern Illinois University, United States</td>
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<td>ID 141 DMAIC Approach to Address Non-compliances in 3D Feature Based Computer Generated Design Models</td>
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<td>Ayyagari Ramani and Ramon Banuelos, Lawrence Technological University, Southfield, MI, USA</td>
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<td>ID 070 Efficiency of using RhoVol Mechanical Analyser as a Diagnostic Coal Dry Beneficiation Method</td>
<td></td>
<td>N. Tshiongo-Makgwwe, University of Johannesburg, Faculty of Engineering and the Built Environment, School of Mining, Metallurgy and Chemical Engineering, Department of Metallurgy, Minerals Processing and Technology Research Centre, South Africa, South Africa</td>
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<td>ID 104 On an Alternative To Copula Methodology</td>
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<td>Lidia Filus, Northeastern Illinois University, United States</td>
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<td>ID 418 Benefit of Implementing Lean Construction Practices in the South African Construction Industry</td>
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<td>Opeoluwa Akinradewo, Ayodeji Oke, Clinton Aigbavboa and Mulongo Ndalamba, Department of Construction Management and Quantity Surveying, University of Johannesburg, Johannesburg, South Africa</td>
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<tr>
<td>2:30 – 4:00, THURSDAY</td>
<td>Systems Dynamics and Systems Engineering</td>
<td>Acropolis 5</td>
<td>Mariem Ait Bakader, Sidi Mohamed Ben Abdellah University, FES, Morocco</td>
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<td>ID 297 A System Dynamics Approach to Study the Behavior of Cape Town Tourism for the Next Coming 10 Years</td>
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<td>Shelly Mona, Industrial Engineering Department, Tshwane University of Technology, Pretoria, South Africa</td>
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<td>ID 268 System Dynamics Model Development for the Professional Engineer's Pipeline</td>
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<td>Philisa Mangakane, John Trimble and Mukondeleli Grace Kanakana-Katumba, Department of Industrial Engineering, Tshwane University of Technology, Pretoria, South Africa</td>
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<td>ID 059 Model-based Systems Engineering of Phosphate Beneficiation Processes</td>
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<td>Mariem Ait Bakader, Applied Organic Chemistry Laboratory, Faculty of Sciences and Technics, Sidi Mohamed Ben Abdellah Univ., FES, Morocco</td>
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<td>ID 178 Enhancing Productivity through Simulation and Layout Planning: A Case Study of a Manufacturing Company in South Africa</td>
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<td>Stephen Katlego Lehlake, Goodwell Muyengwa and Yvonne N. Mawane, Department of Mechanical Engineering and Industrial Engineering Technology, University of Johannesburg, Johannesburg, South Africa</td>
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<td>4:00 – 4:30 pm – Networking Break</td>
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<tr>
<td>Session – Thursday (November 1) – 4:30 – 6:00 pm</td>
<td>Workshop on Entrepreneurship</td>
<td>Spartan 2</td>
<td>Professor Donald M. Reimer</td>
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<td>Professor Donald M. Reimer</td>
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<td>Director of Membership and Chapter Development – IEOM Society, President, The Small Business Strategy Group, Detroit, Michigan, USA, Adjunct Faculty, Lawrence Technological University, Southfield, Michigan, USA</td>
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<tr>
<td>4:30 – 6:30, THURSDAY</td>
<td>Technology and Work Management</td>
<td>Spartan 3</td>
<td>Sihle Mankazana, Department of Quality and Operations Management, University of Johannesburg, RSA</td>
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<td>ID 374 Obsolescence Management the Study of Power Utility in South Africa</td>
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<td>N. Gantsho, Prof JHC Pretorius and B Makhanya, Department of Mechanical Engineering Science, University of Johannesburg, South Africa</td>
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<td>ID 130 Scenario Analysis of Renewable Energy Desalination Integration in South Africa</td>
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<td>Anastasia Papadouris and George Alex Thopil, Department of Engineering and Technology Management, Graduate School of Technology Management, University of Pretoria, Hatfield, South Africa</td>
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<td>ID 033 Development And Performance Analysis of Horizontal Waste Paper Baling Machine</td>
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<td>Iginwig Osamwonyi, Imhade P. Okokpuije, Joseph O. Dirisu, Department of Mechanical Engineering, Covenant University, Ota, Ogun State, Nigeria, D. I. Iginowomiah, Department of Mechanical Engineering, University of Benin, Benin City Edo State, Nigeria, Kennedy Okokpuije, Department of Electrical and Information Engineering, Covenant University, Ota Ogun State, Nigeria</td>
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<td></td>
<td>ID 115 Evaluating Employee Performance to Improve Customers Waiting Time - A Case Study</td>
<td></td>
<td>Sihle Mankazana and Magano Molefe, Department of Quality and Operations Management, University of Johannesburg, Auckland Park RSA</td>
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4:30 – 6:00, THURSDAY  Healthcare and Service Engineering  Spartan 4

Session Chair: Sayed Y. Akl, The British University in Egypt (BUE), Cairo, Egypt

ID 307  A Complexity Management Approach to Designing Viable IT Service Systems in South Africa
Sekhwele Moses Mokgala and Bruno Emwanu, School of Mechanical, Industrial and Aeronautical Engineering, University of the Witwatersrand, Johannesburg, South Africa

ID 221  Design of an Automated Peanut Butter Making Machine in Developing Countries
Benjamin Moyana, 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, Bunting Road Campus, Johannesburg, South Africa

ID 114  The Influence of Inventory Management Techniques and Supply Chain Management: A Study on How Effective Inventory Management Systems and Supply Chain Management Can Help Establish High Performance in Johannesburg Manufacturing Industries
Sihle Mankazana and Manli Silase, Department of Quality and Operations Management, University of Johannesburg, Auckland Park, South Africa

ID 326  Analysis of Wear Debris from Lubricated Machinery to Human Joints
Sayed Y. Akl, The British University in Egypt (BUE), Cairo, Egypt

ID 132  Productivity Improvement in a Public Health Care system
Ngaka Mosia, Mechanical and Industrial Engineering, University of South Africa (Unisa), Florida, Science Campus, Gauteng, South Africa

ID 133  The New Public Health Care Paradigm
Ngaka Mosia, Mechanical and Industrial Engineering, University of South Africa (Unisa), Florida, Science Campus, Gauteng, South Africa

4:30 – 6:30, THURSDAY  Financial Engineering and Engineering Economy  Acropolis 2

Session Chair: Tlotlo S. Botswana International University of Science and Technology, Palapye, Botswana

ID 337  Nexus between Human Capital Development and Economic Growth in Nigeria
Jesusetemi Oluwafemi and Pule Kholopane, Dept. of Quality and 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, RSA

ID 174  Recovery of Copper and Nickel from BCL Slag Dump at Selebi Phikwe, Botswana
Tlotlo S. Gabasiane and Dr Shepherd Bhero, Department of Chemical, Materials and Metallurgical Engineering, Botswana International University of Science and Technology, Palapye, Botswana

ID 213  Employee Financial Wellness in the Construction Industry: The Importance of Financial Literacy and Financial Behaviour
Omotola Olasehinde and Clinton Aigbavboa, Department of Construction Management and Quantity Surveying, University of Johannesburg, RSA

ID 215  The Effects of Financial Stress of Employee in the Construction Industry
Omotola Olasehinde and Clinton Aigbavboa, Department of Construction Management and Quantity Surveying, University of Johannesburg, Johannesburg, South Africa

4:30 – 6:30, THURSDAY  Product Development  Acropolis 3

Session Chair: Hui-Ming Wee, Chung Yuan Christian University, Chungli City, Taiwan

ID 363  Design of a Pulverising and Packaging Machine for Vegetable Powder Production
Michael Kanisuru Adeyeri, Oluwole Timothy Ojo and Sesan Peter Ayodeji, Department of Industrial and Production Engineering, The Federal University of Technology, Akure, Nigeria
Sadiq Sankara Musa, Department of Mechanical Engineering, The Federal University of Technology, Akure, Nigeria

ID 362  Development of Drying Machine for Vegetable Extracts
Michael Kanisuru Adeyeri, Oluwole Timothy Ojo and Sesan Peter Ayodeji, Department of Industrial and Production Engineering, The Federal University of Technology, Akure, Nigeria
Ganiyu Temitope Lasisi, Department of Mechanical Engineering, The Federal University of Technology, Akure, Nigeria

ID 182  A framework for Evaluating and Selecting Technologies Appropriate for Mass Customization
Partson Dube, Mechanical Engineering and Industrial Engineering Technology, University of Johannesburg, Johannesburg, 2006, SA
Charles Mbohwa, Quality and Operations Management, University of Johannesburg, Johannesburg, SA

ID 183  Customisation through Technology in Small to Medium Furniture Enterprises
Partson Dube, Mechanical Engineering and Industrial Engineering Technology, University of Johannesburg, Johannesburg, 2006, SA
Charles Mbohwa, Quality and Operations Management, University of Johannesburg, Johannesburg, SA

ID 117  Product Quality Characteristics for the Standardization of Traditional boats in East Java, Indonesia
Yugowati Praharsi and M. Abu Jami’in, Shipbuilding Institute of Polytechnic Surabaya, Sukolilo, Surabaya, Indonesia
Hui-Ming Wee, Department of Industrial and System Engineering, Chung Yuan Christian University, Chungli City, Taiwan
4:30 – 6:00, THURSDAY   Cybersecurity   Acropolis 4
Session Chair:  Nsikan Nkordeh, Covenant University, Nigeria

ID 179  A Review on the Security of Smart Homes in the Internet of Things
Mazwa Khawla and Mazri Tomader, Electrical Systems and Telecommunications Engineering, National School of Applied Sciences Kenitra, Morocco

ID 180  Depreciation Determination of a D9 Earth Moving Mechanical Plant
Anthony Deku and Esther Akinlabi, Department of Mechanical Engineering Science, University of Johannesburg, South Africa

ID 187  Big Data Security Proposed Solution
Ibtissame Kandrouch, Manale Boughanja and Habiba Chaoui, ADSI Team, System Engineering Laboratory National School of Applied Sciences, Ibn Tofail University, Kenitra, Morocco
Nabil Hmina, System Engineering Laboratory, ADSI Team National School of Applied Sciences Kenitra, Morocco

ID 014  Big Data in Sport Analytics: Applications and Risks
Euodia Vermeulen and Sarma Venkata Yadavalli, Department of Industrial Engineering, University of Pretoria, South Africa

ID 422  Cloud Computing Technology: Advantages, Challenges and Security Issues
Nsikan Nkordeh, Covenant University, Nigeria
Idiake Stanley Uzairue, Covenant University, Nigeria
Ibinabo Bob-Manuel, IT Consultant, Nigeria

4:30 – 6:00, THURSDAY   Logistics   Acropolis 5
Session Chair:  Frank Kienhöfer, University of the Witwatersrand, South Africa

ID 063  An Assessment on the Implementation of Sustainable Supply Chain Management - A Case Study of the City of Johannesburg
Kanakana Mutenda, Faculty of Engineering and the Built Environment, University of Johannesburg, Auckland Park, South Africa

ID 207  Distribution Challenges and Opportunities in Zimbabwean Film Industry: A Case Study of Harare
Fortunate Tatenda Mauyakufa and Anup Pradhan, Department of Quality and Operations Management, University of Johannesburg, South Africa

ID 279  A Routing Vehicles Model for the Delivery of Furniture and Home Appliances of a Retail Company in Southern Brazil
Carlos Ernani Fries, Luis Antônio Vinholi and Danielli Braun Vargas, Department of Production and Systems Engineering, Federal University of Santa Catarina, Florianópolis, SC, Brazil

ID 306  Operational Improvement Outcomes through Voluntary Compliance in Road Transport Operations
Abdool Kamdar, Frank Kienhöfer and Bruno Emwanu, University of the Witwatersrand, South Africa
Gert Heyns, University of Johannesburg, Auckland Park, South Africa
Paul Nordengen, CSIR Built Environment, Pretoria, South Africa
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Plant Tours  |  Poster and Paper Contest  |  Alumni Relations
Communication Development  |  Fund Raising  |  Leadership and Teambuilding Skills

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- IEOM Society of Kenya
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http://www.joseagarzareyes.com
Second European IEOM Conference, Paris, France, July 26-27, 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 2016 Malaysia Conference Photos (March 8-10, 2016)
IEOM 2016 Detroit Conference Photos (September 23-25, 2016)

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University of New Brunswick at Fredericton, Canada

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)
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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 Sao 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 Pretoria Conference

IEOM Society Activities

October 30-November 1, 2018

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. Denison C. Mirim (Director – IFSP – Sorocaba).

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
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 Pretoria Conference  
IEOM Society Activities  
October 30-November 1, 2018

IEOM University of Monterrey (UDEM), Mexico Visit, May 29-30, 2018

IEOM KUET Visit, August 6, 2018
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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. University 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 Quindío
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
30. Pandit Dendayal Petroleum University, Ahmedabad, Gujarat
31. P.D.A. College of Engineering, Gulbarga, Karnataka, India
32. Vellore Institute of Technology
33. Vidy Jyothi Institute of Technology, Hyderabad

## Indonesia
34. Bina Nusantara University (Binus), Indonesia
35. Institut Teknologi Bandung
36. Institut Teknologi Sepuluh Nopember (ITS)
37. Lampung University, Jakarta
38. University of Indonesia
39. Universitas Sebelas Maret (UNS), Surakarta

## Iran
40. Mehrastan University, Guilan
41. University of Eynavekey

## 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

9th IEOM International Conference
JW Marriot Hotel, Bangkok, Thailand, March 5-7, 2019

Conference Website: www.ieomsociety.org/ieom2019/

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/