

7TH EUROPEAN CONFERENCE

on Industrial Engineering and Operations Management

Augsburg, Germany

HOST UNIVERSITY & VENUE



Technische
Hochschule
Augsburg

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JULY 16–18, 2024

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Industrial Engineering and Operations Management Society International

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Overall Conference Program

Preconference – July 15 (Online)

8:00 am – 4:00 pm - Student Competitions

4:00 pm - Virtual Keynote:

- Dr. Luca Gualtieri, Faculty of Engineering, Free University of Bolzano, Senior Researcher at the “Smart Mini Factory laboratory” (SMF) for Industry 4.0 and at the “Extended Reality Laboratory and Training Center” (XR-lab).

11:30 am – 6:00 pm - Daimler (Mercedes-Benz in Stuttgart) Plant and KUKA Plant Tours

1:00 pm – 6:00 pm: Pre-conference registration

Day 1 – July 16 (Tuesday)

7:00 am – 6:00 pm – Registration

8:30 – 9:00 am, Tuesday, July 16, 2024, - Conference Welcome and Opening:

- Prof. Nadine Warkotsch – Vice President for Research and Sustainability, Technical University of Applied Sciences Augsburg

9:00 – 9:40 am, Tuesday, July 16, 2024 - Keynote I (Opening Keynote)

- Dr. Vasko Isakovic, Head of KUKA Simulation Business in the KUKA Robotics Group, Kuka AG, Augsburg, Bavaria, Germany

9:40 – 10:10 am, July 16, 2024 - Press, Networking and Refreshments,

10:10 – 10:50 am, Tuesday, July 16, 2024 - Keynote II

- Roland Jenning, Senior Vice President of Digital Solutions, Grenzebach

10:50 – 11:30 am, Tuesday, July 16, 2024 - Keynote III

- Dr. Carsten Hahn Research Professor + Senior Director SAP – Karlsruhe University of Applied Science / SAP

11:30 am – 12:10 pm, Tuesday, July 16, 2024 - Keynote IV

- Sören Süße, Program Lead R&T, Kopter Germany (part of Leonardo Helicopters)

12:10 – 1:30 pm – Buffet Lunch at Technical University Augsburg Cafeteria

1:30 – 3:30 pm – Parallel Technical Sessions

3:30 – 5:30 pm – Parallel Technical Sessions

Day 2 – July 17 (Wednesday)

7:00 am – 6:00 pm – Registration

8:00 – 9:00 am – Parallel Technical Sessions

Keynote V: Wednesday, July 17, 2024, 9:00 – 9:40 am

Dr. Max Dinkelmann, Senior Inhouse Consultant, TRUMPF Laser- und Systemtechnik GmbH

Keynote VI: Wednesday, July 17, 2024, 9:40 – 10:20 am

Klaus Spindler, Director of Artificial Intelligence, Forvia

10:20 – 10:40 am Networking Break

Keynote VII: Wednesday, July 17, 2024, 10:40 – 11:20 am

Felix Georg Müller, CEO and Co-Founder, Plus10 GmbH, Augsburg, Bavaria, Germany

Keynote VIII: Wednesday, July 17, 2024, 11:20 am – 12:00 pm

Dr. Semir Maslo, Head of Product Management, Big Data in Manufacturing GmbH, Germany

12:00 – 1:30 pm – Buffet Lunch at University Cafeteria

1:30 – 3:30 pm – Parallel Technical Sessions

1:30 – 5:30 pm – Parallel Technical Sessions

Day 3 – July 18 (Thursday)

7:00 am – 6:00 pm – Registration

8:00 – 9:00 am – Parallel Technical Sessions

Keynote IX: Thursday, July 18, 2024, 9:00 – 9:40 am

Dr.-Ing. Roman Ungern-Sternberg, Team Lead Operational Excellence, Fraunhofer Institute for Manufacturing Engineering and Automation, Stuttgart, Germany

Keynote X: Thursday, July 18, 2024, 9:40 am – 10:20 am

Heike Homann, Vice President of Operations Strategy, Airbus Helicopters, Donauwörth, Germany

10:20 – 10:40 am Networking Break

Keynote XI: Thursday, July 18, 2024, 10:40 am – 11:20 am

Simon Heck, Manufacturing Engineering Director EMEA, TI Fluid Systems, Rastatt, Germany

Keynote XII: Thursday, July 18, 2024, 11:20 am – 12:00 pm

Dr. Steffen Klarmann, Advanced Development Director Manager, Valeo SA, Wemding, Germany

12:00 – 1:30 pm – Buffet Lunch at University Cafeteria

1:30 – 3:30 pm – Parallel Technical Sessions

3:30 – 5:30 pm – Parallel Technical Sessions

7:00 – 10:00 pm – Awards Ceremony and Gala Dinner

Post Conference – July 19 (Friday)

Daimler Factory Plant Tour (Mercedes Benz) – Stuttgart

Keynote Speakers

Tuesday, July 16, 2024

Conference Welcome and Opening: Tuesday, July 16, 2024, 8:30 – 9:00 am



Prof. Nadine Warkotsch
Vice President for Research and Sustainability
Technical University of Applied Sciences Augsburg
Augsburg, Bavaria, Germany

Prof. Dr. Nadine Warkotsch is Vice President for Research and Sustainability and Professor of Chemistry at the Technical University of Applied Sciences Augsburg. She studied chemistry at the Technical University of Kaiserslautern and completed her doctorate at the Ludwig Maximilian University of Munich in 2004. After completing her doctorate, she joined Henkel AG & Co. KGaA, where she held senior positions in various departments of chemical product development across Düsseldorf, Hamburg, and Barcelona, Spain. Her work at Henkel provided her with extensive experience in industrial chemical processes and product innovation. In 2013, she founded her own consulting company, specializing in assisting firms with the application and execution of technical research funding projects. In addition to her academic and professional pursuits, she is actively involved in sustainability initiatives. She co-chairs the Sustainability Advisory Board of the City of Augsburg, where she applies her scientific expertise to promote sustainable practices and policies.

Keynote I (Opening Keynote): Tuesday, July 16, 2024, 9:00 – 9:40 am



Dr. Vasko Isakovic
Head of KUKA Simulation Business in the KUKA Robotics Group
Kuka AG
Augsburg, Bavaria, Germany

Presentation Title: KUKA on the way to the Industrial Metaverse

Dr. Vasko Isakovic first studied business mathematics at the University of Augsburg and then earned his doctorate on the topic of "Risk/return integrated evaluation of multi-period IT investments" at the Core Competence Center Finance and Information Management at the University of Augsburg. In addition to his academic activities, he also worked as an external consultant for numerous financial service providers.

Afterwards he moved to SOFORT GmbH (a Klarna Group Company) an eCommerce payment provider based in Munich. As Senior Manager Products and in the role of the product owner for SOFORT Überweisung he was ensuring product readiness for entries in new markets and continuous product improvement based on user research. Moreover, he was successfully driving the transition to an agile software development. Subsequently he took over the role of Head of the department "Risk & Data Analytics" and thus responsibility for the company-wide risk & fraud management and BI landscape.

His KUKA journey started in 2013 where he held various positions in IT and Business departments. Most recently, he was leading the set up of KUKA's Ecosystem Robot Republic which is a multi-vendor ecosystem that offers all the components of high-performance robot applications on an open platform. Since November 2022 he is the Head of KUKA Simulation Business in the KUKA Robotics Group. Together with his teams he is responsible for the Business Development of digital products and enabling customer success by offering digital products, services & support throughout the Digital Customer Journey.

Press, Networking and Refreshments, July 16, 2024, 9:40 – 10:10 am

Keynote II: Tuesday, July 16, 2024, 10:10 – 10:50 am



Roland Jennings
Senior Vice President of Digital Solutions
Grenzbach
Donauwörth
Bavaria, Germany

Roland Jennings' career at Grenzbach began in 1982 with his training as an industrial electronics technician. After completing his degree in engineering (FH), he returned to the Grenzbach Group in 1991 and has since held various positions within the Group. He is currently responsible for the numerous digitalization activities of the Group as Senior Vice President Digital Solutions. Since 2009, he has been responsible for all R&D topics within the Grenzbach Group and is a member of the global Tech Board.

In addition, he is CEO of inos Automationssoftware GmbH, a Grenzbach Group subsidiary specializing in vision technology, based in Stuttgart, Germany.

Keynote III: Tuesday, July 16, 2024, 10:50 – 11:30 am



Dr. Carsten Hahn
Research Professor + Senior Director SAP
Karlsruhe University of Applied Science / SAP
Germany

Presentation Title: The role of Business Networks and Platform Business in the Manufacturing Industry

Carsten H. Hahn is a director of research and innovation at SAP and additionally holds a professorship for Innovation and Entrepreneurship at the Karlsruhe University of Applied Sciences. After studying business informatics at the University of Mannheim and doing his doctorate in Marketing Science at the Johannes Gutenberg University, Mainz, he began his management career as an assistant to the executive board at SAP. Today he is Senior Director at SAP responsible for Platform Business Strategies. Carsten serves as a visiting lecturer at the Sloan School of Management at the Massachusetts Institute of Technology. In his academic work, he founded the Institute of Digital Economy and Venturing, which deals with entrepreneurship and innovation concepts in research, teaching, and practical applications and also founded the [X]Lab, the startup and venturing center of the university.

Keynote IV: Tuesday, July 16, 2024, 11:30 am – 12:10 pm



Sören Süße
Program Lead R&T
Kopter Germany (part of Leonardo Helicopters)

Sören Süße is Head of Technology & Innovation Germany of Leonardo Helicopters / Kopter Germany. In this role, he is responsible for the R&T projects in Germany. These projects cover three main pillars: Acoustics, Electric and Sustainable Propulsion, and Predictive Maintenance of Rotorcraft. Research project partners of Kopter Germany involve DLR, Fraunhofer Institute, various universities in Germany as well as industry partners. Prior to this position, he was the project lead for a disruptive project in the field of Health and Usage Monitoring, using fiber-optical sensors on a main rotor blade to gain important data about the remaining useful life of rotorcraft components.

Before joining Kopter Germany, he worked from 2012 to 2018 at the Institute for Rotorcraft and Vertical Flight at the Technical University of Munich (TUM). In this time, he was leading projects in the fields of Health- and Usage Monitoring, Certification by means of Virtual Testing and Modular Certification of Electro-Mechanical Actuators.

Apart from this, Sören founded two start-ups. Knowing both sides, the corporate environment in aerospace with strict regulations and the start-up world, he is a proponent of a hybrid model of working in project management: combining traditional waterfall methods with an agile approach.

Wednesday, July 17, 2024

Keynote V: Wednesday, July 17, 2024, 10:00 – 10:40 am

Keynote V: Wednesday, July 17, 2024, 9:00 – 9:40 am



Dr. Max Dinkelmann
Senior Inhouse Consultant
TRUMPF Laser- und Systemtechnik GmbH
Ditzingen, Germany

Presentation Title: Maturity Steps towards a Digitally Integrated Shop Floor Management at TRUMPF

Max Dinkelmann is a Senior Inhouse Consultant at TRUMPF working worldwide in production. His focus is on lean management, training and digital transformation in assembly, working on topics ranging from shop floor management, ramp-up of capacities, material supply to target deployment. He was involved in the development of the consulting framework for supporting TRUMPF customers in sheet metal manufacturing (mostly SMEs) in their digital transformation efforts.

During five years as a program manager and team lead in clean room production of optical components for EUV lithography he gained operational experience. TRUMPF produces a pulsed high-power CO2 laser system that generates a luminous plasma which emits extremely short-wave radiation at 13.5 nanometers. By exposing substrates to this EUV light the latest generation of semiconductors are produced.

In his doctoral thesis he investigated the use of learning factories to support change management in production. During this time he was heading the learning factory at the Fraunhofer IPA/IFF of the University of Stuttgart. The learning factory is a highly automated production environment which includes digital tools to enhance learning by doing in industrial engineering. Prior to that he studied Technology Management (mechanical engineering and management) at the University of Stuttgart.

Keynote VI: Wednesday, July 17, 2024, 9:40 – 10:20 am



Klaus Spindler
Director of Artificial Intelligence
Forvia
Munich, Germany

Presentation Title: Towards Smart Contextual Assistants in Operations Management

Klaus Spindler is the Director of Artificial Intelligence Technologies at Forvia Clean Mobility. In this role he is responsible for driving forward the company's digitalization activities but also for the development of innovative applications that use artificial intelligence-based technologies. Prior to building up the team and competences in Clean Mobility in 2016 he used to be a long-standing leader of the European Application Engineering in Faurecia Emissions Control Technologies and EMCON Technologies. He has almost 30 years of experience in the Automotive Supplier Industry with a broad exposure to Product and Process Engineering.

He is a recognized regional Speaker in AI, having co-founded the annual Artificial Intelligence Conference of Swabia-Bavaria at the Chamber of Commerce. He also used to be the Chairman of the associated regional AI-Network with 80+ companies from various industries.

Klaus Spindler studied Mechanical Engineering at the Technical University in Munich, Germany, and Environmental Engineering at the University of Colorado in Boulder, USA, as a Fulbright scholar.

Keynote VII: Wednesday, July 17, 2024, 10:40 – 11:20 am



Felix Georg Müller
CEO and Co-Founder
Plus10 GmbH
Augsburg, Bavaria, Germany

Presentation Title: The regulatory challenge: AI tools for shortening Ramp-ups and increasing 24/7 output of complex medical and Pharma production lines

Felix Georg Müller is CEO and Co-founder of plus10 GmbH, which he founded in 2019 together with Pablo Mayer and Thomas Hiltbrich as a high-tech spin-off of Fraunhofer IPA (Fraunhofer is Europe's largest applied research association with more than 72 institutes). He holds a diploma degree in production engineering from RWTH Aachen and Ecole Centrale Paris and additional data Science certifications. The spinoff plus10 develops, delivers and implements AI-based continuously learning software tools for the automated optimization of complex production lines and machines especially in regulated environment such as Pharma and Medtech. At Fraunhofer, Felix Georg Müller developed new methods for production optimization, patented, tested and industrialized them. At the same time, he built up a Fraunhofer research group for autonomous production optimization, which granted for example the first place in the Hans-Jürgen Warnecke award for innovation. His expertise covers in particular data-driven methods for production optimization as well as AI and machine learning particularly in the context of high frequency machine controller data and production data sets.

Keynote VIII: Wednesday, July 17, 2024, 11:20 am – 12:00 pm



Dr. Semir Maslo
Head of Product Management
Big Data in Manufacturing GmbH
Germany

Presentation title: 100% AI quality control for machining processes

Keywords: AI, Machine Learning, Predictive Quality, Milling, Turning

Dr.-Ing. Semir Maslo is an accomplished professional in the field of manufacturing and cutting technologies, with a focus on integrating digital solutions into production processes. Currently leading Product Management at Big Data in Manufacturing GmbH, he has been pivotal in developing the Virtual Quality Control system, an innovative product that utilizes real-time machine data for comprehensive quality assurance.

Prior to this role, Dr. Maslo dedicated seven years at the Fraunhofer Institute for Production Technology IPT in Aachen, where he led multiple digitalization projects aimed at enhancing aerospace milling efficiency. His work in this area has significantly contributed to improvements in process efficiency and product quality.

Dr. Maslo holds a Doctorate in Engineering from RWTH Aachen University. His academic and professional pursuits have been marked by a consistent focus on applying advanced technologies to practical manufacturing challenges, leading to improved operational efficiencies and product innovations.

Thursday, July 18, 2024

Keynote IX: Thursday, July 18, 2024, 9:00 – 9:40 am



Dr.-Ing. Roman Ungern-Sternberg
Team Lead Operational Excellence
Fraunhofer Institute for Manufacturing Engineering and Automation
Stuttgart, Germany

Presentation Title: End-to-End Transparency in complex multi-level product-production structures

Roman Ungern-Sternberg is Team Lead for applied research in Operational Excellence at the Fraunhofer Institute in Stuttgart.

His guideline toward production improvement: Operational Excellent is a strategic advantage and reached by improving operations in two main dimensions: Dependability and speed. Stable, on-time delivery is a key aspect for customer satisfaction and reduced friction within production. Such dependable processes allow for improving speed in the complete process chain. Goal is to position operations as a strategic advantage.

Roman has a background as researcher and project manager in worldwide logistics, factory planning and lean management projects. His research focuses is on the link between production planning and lean operations.

His keynote focuses on bridging the communications gap between lean practitioners and production planners. It highlights the importance of a common visual "product-production map" for the operations team. Vision is a common tool, just as handy as the value stream map for production.

Keynote X: Thursday, July 18, 2024, 9:40 am – 10:20 am



Heike Homann
Vice President of Operations Strategy
Airbus Helicopters
Donauwörth, Germany

Presentation Title: Airbus Helicopters - Opportunities of Additive Manufacturing technology in the aerospace industry

Heike Homann is the Vice President for Operations Strategy at Airbus Helicopters. After studying business economics at Kath. Universität Eichstätt- Ingolstadt (WFI), she started her career as Head of Supply Chain Management and Logistics at Haimer GmbH in 2007, a high – precision tooling manufacturer.

Her Airbus journey started in 2009 in Airbus Defence & Space as Inhouse Consultant for Procurement, followed by long international management experiences in Support & Services and as Head of Production Quality for the Eurofighter Program.

Today at Airbus Helicopters her target is to connect AH clear strategic ambitions, which are based on strong world-wide production expertise from single part to final assembly of civil & military Helicopters with our outstanding dedication for Innovation & Technology and with the engagement of our employees to develop and deliver solutions satisfying our customer needs worldwide.

Fostering diversity, acting as a mentor for many years and sharing experiences is her contribution to the "growth" of the next generation (female) leaders.

Keynote XI: Thursday, July 18, 2024, 10:40 – 11:20 am



Simon Heck
Manufacturing Engineering Director EMEA
TI Fluid Systems
Rastatt, Germany

Simon Heck is the Manufacturing Engineering Director for the EMEA Region at TI Fluid Systems. TI Fluid Systems designs and manufacturers thermal management solutions and fluid handling systems that improve efficiency, performance and sustainability for vehicle manufacturers worldwide with a turnover of ~3.5B € and 27.000 employees worldwide.

Together with his team he is responsible for Industrializing manufacturing processes and setting up the production environment from customer RFQ until SOP and beyond. He started his career as Process Engineer in a manufacturing plant for plastic fuel tanks, taking different plant roles before moving to different Regional Manufacturing roles. Therefore he has a deep background for the theoretical and practical needs in the area of manufacturing that he could collect

over more than 15 years in the industry. During this time he was supporting the built up of several greenfield manufacturing plants especially in Eastern Europe and South Africa.

His academic education started with the studies of Mechatronics at the University of Applied Sciences in Karlsruhe where he gathered the theoretical basics along with practical experience. During his diploma thesis he worked on the field of Flexible Manufacturing Cells for low volume aftermarket production. He continued his academic career during his Executive Master Studies of Production and Operations Management at the KIT Karlsruhe.

Keynote XII: Thursday, July 18, 2024, 11:20 am – 12:00 pm



Dr. Steffen Klarmann
Advanced Development Director Manager
Valeo SA
Wemding, Germany

Presentation Title: Transformation of Automotive ADAS Sensor Production

Dr. Steffen Klarmann is an accomplished professional currently serving as the Advanced Development Director Manager at Valeo SA in Wemding, Germany. He has over seven years of experience in automotive project management, thermal design, Artificial Intelligence, Industrial Internet of Things and Cyber Security. Dr. Klarmann holds a Ph.D. in Electronic Engineering from the University of Chester, United Kingdom, where his research focused on enhancing PCB technology for automotive applications. Dr. Klarmann is highly recognized

within his field, having received multiple awards for his contributions to AI and cyber security within Valeo.

Throughout his career at Valeo, Dr. Klarmann has spearheaded numerous interdisciplinary projects aimed at integrating AI and digital tools into manufacturing processes. He has also played a pivotal role in introducing cyber security protocols in the production of the first automotive LiDAR sensor.

Virtual Keynote on Monday, July 15, 4:00 pm



Dr. Luca Gualtieri
Faculty of Engineering
Free University of Bolzano
Italy

Senior Researcher at the “Smart Mini Factory laboratory” (SMF) for Industry 4.0 and at the “Extended Reality Laboratory and Training Center” (XR-lab).

Dr. Luca Gualtieri is a tenure track assistant professor at the Faculty of Engineering of the Free University of Bolzano, as well as senior researcher at the “Smart Mini Factory laboratory” (SMF) for Industry 4.0 and at the “Extended Reality Laboratory and Training Center” (XR-lab).

He is responsible for research in the field of ergonomics and safety in advanced industrial human-robot interaction, assistance systems for training and production, and technology-based social inclusion of vulnerable workers in manufacturing contexts.

He participated in many European-funded project calls as well as collaboration with private companies in industrial projects. He taught several industrial and academic lectures on the mentioned topics.

Conference Chairs / Organizing Leadership Team



Dr.-Ing. Jürgen H. Lenz
Faculty of Mechanical and Process Engineering
Technical University of Applied Science Augsburg
Augsburg, Bavaria, Germany

Jürgen Herbert Lenz is research professor in the field of AI Systems for Manufacturing at Technical University of Applied Science Augsburg. In addition, he serves as Deputy Scientific Manager at the Technology Transfer Center in Nördlingen, Bavaria. Prior to this position, he was Professor of Smart Manufacturing at the Technical University of Applied Sciences Würzburg-Schweinfurt (THWS). He gained Industry Experience as Solution Architect for implementation and consulting of (I)IoT-Applications working for INNEO Solutions GmbH based in Ellwangen, Germany. Previously he served as Postdoctoral Fellow at West Virginia University in Morgantown, WV, USA (2018-2020) and worked for Fraunhofer at the Institute for Manufacturing Engineering and Automation

IPA in Stuttgart. He completed his Engineering Doctoral Degree at the University of Stuttgart, Germany (2018), his Master of Science in Industrial Engineering as a Fulbright Scholar at Oregon State University (2012) and the German Engineering Diploma in Manufacturing Engineering at Technical University of Applied Science in Ulm (2009). His research interests are in the field of Smart Manufacturing include Machine Tool Connectivity, IoT-Platforms, Data Analytics and Machine Learning.



Prof. Nadine Warkotsch
Vice President for Research and Sustainability
Technical University of Applied Sciences Augsburg

Prof. Dr. Nadine Warkotsch is Vice President for Research and Sustainability and Professor of Chemistry at the Technical University of Applied Sciences Augsburg. She studied chemistry at the Technical University of Kaiserslautern and completed her doctorate at the Ludwig Maximilian University of Munich in 2004. After completing her doctorate, she joined Henkel AG & Co. KGaA, where she held senior positions in various departments of chemical product development across Düsseldorf, Hamburg, and Barcelona, Spain. Her work at Henkel provided her with extensive experience in industrial chemical processes and product innovation. In 2013, she founded her own consulting company, specializing in assisting firms with the application and execution of technical research funding projects. In addition to her academic and professional pursuits, she is actively involved in sustainability initiatives. She co-chairs the Sustainability Advisory Board of the City of Augsburg, where she applies her scientific expertise to promote sustainable practices and policies.



Dr. Florian Kerber
Faculty of Electrical Engineering
Technical University of Applied Science Augsburg
Augsburg, Bavaria, Germany

Florian Kerber received his diploma in engineering cybernetics from the University of Stuttgart, Germany in 2007 and a Master of Science in engineering science and mechanics from Georgia Institute of Technology in 2006. He obtained his PhD on compositional analysis and control of dynamical systems from the University of Groningen, Netherlands, in 2011. Currently, he is a Professor at the Faculty of Electrical Engineering at the Technical University of Applied Sciences Augsburg, Germany and scientific director of the Center for Technology Transfer at Nördlingen, Germany. His research interests are in modern control theory, robotic

systems and formal methods for production automation.



Dr.-Ing. Stefan Braunreuther
Faculty of Mechanical and Process Engineering
Technical University of Applied Science Augsburg
Augsburg, Bavaria, Germany

Prof. Dr.-Ing. Stefan Braunreuther researches and teaches at the Technical University of Applied Sciences Augsburg in the field of production technology, especially in the area of factory operations and organizational topics. In the surrounding area, he is active in the Center for Production Technology Center in Augsburg. Mr. Braunreuther studied mechanical engineering at the Technical University of Munich with a focus on aerospace engineering and completed his doctorate in the field of laser production technology in 2013 at the Institute for Machine Tools and Industrial Management (*iwb*) at the Technical University of. From 2014 onwards, he headed the department for production planning and control at Fraunhofer IGCV in Augsburg. Here he was also deputy

head of the area processing technology from 2015. Since 2017 Stefan Braunreuther is a professor for factory operations and production technology at the faculty of mechanical and process engineering at Technical University of Applied Sciences Augsburg.

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Prof. Dr.-Ing. Stefan Braunreuther – Faculty of Mechanical and Process Engineering, Technical University of Applied Science Augsburg, Augsburg, Bavaria, Germany

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 Alfredo Soeiro, University of Porto, Portugal
 Ali I. Al-Mosawi, Miskolc University, Hungary
 Ammar Oulamar, Université de Lorraine, Metz, Lorraine, France
 Ana Barbosa-Póvoa, University of Lisboa, Portugal
 Ana Luisa Ramos, University of Aveiro, Portugal
 Ana R. Xambre of University of Aveiro, Portugal
 Ana S. Camanho, University of Porto, Portugal
 Ana Sofia Matos, FCT NOVA, Portugal
 André Carvalho, FCT NOVA, Portugal
 André Mendes de Carvalho, University of Minho, Portugal
 Andrea D'Ariano, Università degli Studi Roma Tre, Roma, Italy
 Andrea Falegnami, Sapienza-University of Rome, Italy
 Andreas Sterzing, Fraunhofer Institute for Machine Tools and Forming Technology, Fraunhofer Institute, Chemnitz, Germany
 Andy TC Wong, University of Strathclyde, Glasgow, UK
 Aneesh Zutshi, FCT NOVA, Portugal
 Anouar Hallioui, Sidi Mohamed Ben Abdellah University, Fez, Morocco
 António Grilo, FCT da Universidade Nova de Lisboa, Portugal
 Arunjoy Banerjee, Hochschule Rhein-Wall, Kleve, Germany
 Asli Çalış Boyacı, Ondokuz Mayıs University, Samsun, Turkey
 Berna Dengiz, Baskent University, Baglica Campus, Ankara, Turkey
 Boudoua Malik, University of Champagne-Ardenne, France
 Cecilia Decesari, Alma Mater Studiorum University of Bologna, Bologna, Italy
 Christoph Szedlak, University of Applied Sciences Koblenz, Koblenz, Germany

Egon Mueller, Technische Universität Chemnitz, Chemnitz, Germany
Erwin Rauch, Free University of Bolzano, Bolzano, Italy
Fabio Frugiero, University of Basilicata, Italy
Faraj Bashir, The University of Sheffield International College, Sheffield, UK
Flora M^a Díaz-Pérez, University of La Laguna, Tenerife, Spain
Francesco Costantino, Sapienza University of Rome, Italy
Francesco Simone, Sapienza University of Rome, Via Eudossiana, Rome, Italy
Francisco Reis, Polytechnic of Porto, Porto, Portugal
Frederik Desplentere, KU Leuven Bruges Campus, Bruges, Belgium
Funlade Sunmola, University of Hertfordshire, Hatfield, Hertfordshire, United Kingdom
George Agyekum-Mensah, Coventry University Coventry, UK
Gian Maria Santi, Alma Mater Studiorum University of Bologna, Bologna, Italy
Giovanni Romagnoli, University of Parma, Italy
Giulio Di Gravio, Sapienza University of Rome, Italy
Gündüz Ulusoy, Sabanci University, Istanbul, Turkey
Hafida Bouloiz, ENSA, Agadir, Morocco
Hakan Altunay, Suleyman Demirel University, Isparta, Turkey
Helena Carvalho, FCT NOVA, Portugal
Henk Zijm, Dutch Institute for Advanced Logistics, University of Twente, Netherlands
Ihsen Abdelmomen, Université de Lorraine, Nancy, France
Imane Benkhati, Faculté des Sciences Semlalia Marrakech, Casablanca, Morocco
Iryna Shvets, Donetsk National Technical University, Pokrovsk, Ukraine
Jaouad Boukachour, University of Le Havre, France
Jiri Tupa, University of West Bohemia, Czech Republic
João Basto, INESC TEC – Technology and Science, Porto, Portugal
João Matias, University of Aveiro, Portugal
José Fernando Oliveira, University of Porto, Portugal
Kannan Govindan, University of Southern Denmark, Denmark
Kondo H. Adjallah, ENIM, Lorraine-INP, University of Lorraine, France
Leonardo Frizziero, Alma Mater Studiorum University of Bologna, Italy
Leonor Teixeira, University of Aveiro, Portugal
Luis Ferreira, University of Coimbra, Portugal
M Khurshid Khan, University of Bradford, Bradford, West Yorkshire, United Kingdom
Mara Lombardi, Sapienza-University of Rome, Rome, Italy
Mario Fagnoli, Universitas Mercatorum, Rome, Italy
Marlene Brás, University of Aveiro, Aveiro, Portugal
Massimo Guarascio, Sapienza-University of Rome, Italy
Matteo Mario Savino, University of Sannio, Benevento, Italy
Matteo Mario Savino, University of Sannio, Benevento, Italy
Mehmet Kursat Oksuz, Istanbul Technical University, Turkey
Miguel Sanz Bobi, Comillas Pontifical University, Spain
Mouloud Denai, University of Hertfordshire, Hatfield, Hertfordshire, United Kingdom
Murat Caner Testik, Hacettepe University, Turkey
Nacima Labadie, Université De Technologie De Troyes, Troyes, Cedex, Aube, France
Nadjib Brahimi, Rennes School of Business, Cedex, France
Naïla Fares, Universitat Politècnica de València, Spain
Nihal Erginel, Anadolu University, TURKEY
Nnamdi Ogbuke, University of Central Lancashire, Preston, Lancashire, United Kingdom
Nuno Costa, Polytechnic Institute- Setubal School of Technology, Portugal
Onur Dogan, Izmir Bakırçay University, Turkey
Oualid Jouini, CentraleSupélec, Université Paris-Saclay, Laboratoire Génie Industriel, France
P Sanjeevikumar, Dublin Institute of Technology, Ireland
Patrick Dallasega, Free University of Bozen-Bolzano, Bozen, Bolzano, Italy
Patrick Pötters, University of Applied Sciences Koblenz, Germany
Peter Toth, Obuda University, Hungary
R.M. Chandima Ratnayake, University of Stavanger, NORWAY
Rafiu Dimeji Seidu, London South Bank University, UK
Ricardo Machado, University of Minho, Portugal
Riccardo Patriarca, Sapienza University of Rome, Italy
Robert Valencia-Chapi, Universidad Politécnica de Madrid, Madrid, Spain
Roberto Panizzolo, University of Padova, Vicenza, Italy
Rogério Puga Leal, FCT NOVA, Portugal
Salvatore Miranda, University of Salerno, Italy
Sam Aflaki, HEC Paris, JOUY-EN-JOSAS, Il de France, France
Sara SHAFIEE, Technical University of Denmark, Lyngby, Denmark
Silvia Colabianchi, Sapienza-University of Rome, Italy
Sofiene Dellagi, LGIPM, METZ, France
Stefano Scialla, Università Campus Bio-medico di Roma, Italy
Stephen Disney, Cardiff Business School, Cardiff University, UK
Steve Martin, Coventry University, Coventry, West Midlands, United Kingdom
Susana Duarte, Universidade Nova de Lisboa, Portugal
Susana Duarte, Universidade NOVA de Lisboa, Portugal
Ufuk Cebeci, Istanbul Technical University, Macka, Turkey
Uwe Götze, Technische Universität Chemnitz, Chemnitz, Saxony, Germany
Vassilis Gerogiannis, Department of Project Management, Greece
Virgilio Cruz Machado, FCT NOVA, Portugal
Vladimir Modrak, TUKE, Slovakia

Wilfried Sihh, TU Wien – Institut für Managementwissenschaften, Bereich Betriebstechnik und Systemplanung und Fraunhofer Austria Research GmbH, Austria
Yahaya Yusuf, Lancashire Business School, Lancashire, United Kingdom
Yasmine Sabri, Politecnico di Milano, Italy
Yassine Ouazene, University of Technology of Troyes, France
Yevgen Zbykovskyy, Donetsk National Technical University, Pokrovsk, Ukraine
Yiping Fang, CentraleSupélec, Bâtiment Bouygues – Laboratoire LGI, Cedex, France

Workshops

Tuesday July 16, 2024
1:30 – 5:30 pm: Onsite Room 2

Design Thinking Workshop



Joseph Paris
CEO, Joseph Paris LLC
Chairman and Founder, XONITEK Group of Companies
Founder, Operational Excellence Society
Frankfurt, Hesse, Germany

Joseph F. Paris Jr. is a recognized global expert in the field operational excellence; an international entrepreneur; a prolific writer; and a sought-after strategist, consultant, and speaker with engagements around the world. His book, “State of Readiness” (May 2017) has been well received by industry peers and endorsed by senior business leaders from some of the most highly respected organizations in existence – with operations around the world and across industries – and promises to be a definitive work on the field of Operational Excellence. Having over 30 years of experience in international business and operations, he is routinely called upon to offer guidance to C-suite and senior executives as well as business-operations and -improvement specialists who wish to improve the overall efficiency and effectiveness of their organizations. He is highly valued for his ability to provide strategic insight and tactical analysis—and to convert these thoughts into reality by successful engagement and execution. Paris’ vehicles for change include: XONITEK Consulting Group International (a consultancy), Readiness Institute (a virtual “university”) and Operational Excellence Society (a “think tank”). He is also the producer of the podcasts: State of Readiness (a fireside chat with industry leaders), Supercharged Supply Chain, discussions on supply chains and logistics and The Outliers Inn, for different perspectives of business. Paris currently serves on the Advisory Boards of the Systems Science and Industrial Engineering (SSIE) Department in the Watson School of Engineering at Binghamton University, the Department of Industrial Engineering & Management and the RV College of Engineering (Bangalore, India), the Institute of Industrial and Systems Engineers (IISE) Industry Advisory Board, and the New York Chapter of the Association for Corporate Growth (ACG) and holds several other prominent positions and responsibilities.

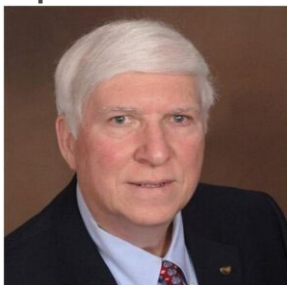
Wednesday July 17, 2024

1:30 – 5:30 pm: Onsite Room 2

Toyota Kata and Emotional Intelligence Workshop
By Mr. Dave Harry and Dr. Tony Prensca

TOYOTA KATA: The Secret Sauce for Toyota Production System

Speaker:



DAVE HARRY, a.k.a. “The Process Whisperer®”
Retired U.S. Naval Aviator
CEO of Process Whisperer® Consultants LLC, Greeneville,
Tennessee, USA
ASQ certified Six Sigma Black Belt and A PMI certified PMP®

Kata in the Classroom (KiC) workshops are based on Mike Rother’s “Toyota Kata” methodology and that Scientific Thinking is a life skill. It’s the basis for creativity and successfully pursuing seemingly unattainable goals. KiC demonstrates a teachable skill that anyone can learn — by combining a simple scientific striving pattern with practice routines called *Kata* – to help you learn meta-cognitive strategies. Many view Toyota Kata as the “secret sauce” of the Toyota Production System (TPS). Mike Rother wrote “Toyota Kata” to explain the secrets of TPS improvement sustaining methodology. How do we prepare for the future when we don’t know what the future will bring? We can’t predict how to get from A to B... we’re stumped and overwhelmed, there are time constraints and economic pressure. Dave Harry will share the “secret sauce” with IEOM and Dubai Area University students through an intense hands-on “Kata in the Classroom” workshop. Be prepared to move fast!

Prizes: Each round table will be used for a team. Local university can form teams to complete. Dave is very kind to provide some prizes with gift cards.

ABOUT THE PRESENTER – DAVE HARRY, a.k.a. “The Process Whisperer®”

Dave is a retired U.S. Naval aviator and currently CEO of Process Whisperer® Consultants LLC. He teaches LSS classes for TMG Inc of Newport News, VA. Prior to TMG, Dave was a Six Sigma and Productivity Consultant for the University of TN Center for Industrial Services. Dave is a “Kata Geek” and also an ASQ certified Six Sigma Black Belt. He is active in ASQ Sections and the ASQ Lean Enterprise Division Communications. In addition to ASQ, he also holds Black Belt Certification through Rolls-Royce and Northrop Grumman. He is a seasoned ASQ International Team Excellence Awards (ITEA) Judge. Dave is also currently on the Lean Division Board with the Institute of Industrial and Systems Engineers (IISE). Dave is on the Conference Advisory Committee for ASQs 2019 L&SS Conference in Phoenix as well as the Conference Committee for the IISE Engineering 2018 Lean Six Sigma Conference in Atlanta. A PMI certified PMP®, Dave also holds Lean Bronze Certification (LBC) through the SME/ASQ/AME/Shingo Institute Alliance and he holds three Master’s Degrees in management related fields. In addition to ASQ, PMI and IISE, Dave is also a member of the Society of Manufacturing Engineers (SME), the Association of Manufacturing Excellence (AME) and the American Production and Inventory Control Society (APICS). Dave lives in Greeneville TN.

Leading with Emotional Intelligence

Speaker:

Dr. Tony Prensa, PhD, MBA, PMP, CB-PMO, CCP, ITIL, 6σ
Chief Executive Officer & Founder
TP Global Business Consulting, LLC
Orlando, Florida, USA



Dr. Prensa is a highly accomplished executive and leader of project management office (PMO), project/portfolio management, information systems and technologies, combines a Doctorate in Organizational Leadership with a major in Information Systems and Technologies, Certified PMO Professional, Authorized PMO Instructor, Certified Project Management (PMP), and ITILIV certification with extensive experience managing and overseeing large information systems projects/programs,

strategic planning, and seamless IT implementations. Adept at reengineering business processes, change management and IT infrastructure with business visions to drive profitability, efficiency, and growth within the organization. Proficient at ensuring all processes comply with regulatory requirements and IT governance practices. Excellent communicator with strong influencing and problem-solving skills. Strong leadership skills and demonstrated ability to lead team members and external business contacts including stakeholders such as consultants, partners and vendors. Demonstrated track record of delivery of multiple technical and business projects on time and within budget. Experience in full-lifecycle project management methodologies and tools. Dr. Prensa has been involved with the Project Management Institute for more than twenty-five years. He served a vice president of PMI Puerto Rico Chapter from 1998-2000. He also volunteered in many activities to promote project management and participated of writing PMP exam questions workshop in Dallas, Texas in 2002. Dr. Prensa has helped hundreds of project management professionals to get prepared for the PMP exam. Dr. Prensa has taught project management for several universities in the country, including Virginia Technical University, Grand Canyon University, Colorado Technical University, University of Phoenix and currently teaching for Walden University. With more than 25 years of teaching experience in various formats, face-to-face and virtual. Dr. Prensa has developed techniques to connect with learners and students in the most efficient way. Dr. Prensa has extraordinary people skills, he always puts people first.

Thursday July 18, 2024

1:30 – 5:30 pm: Onsite Room 2

Workshop on

**Digitalization in Production Planning and Control –
Artificial Intelligence in Layout Planning and Digital
Methods in Assembly**

Speakers:

Prof. Dr.-Ing. Stefan Braunreuther and Marcel Öfele
Technical University of Applied Sciences Augsburg
Augsburg, Bavaria, Germany

Stefan Braunreuther researches and teaches at the Technical University of Applied Sciences Augsburg (THA) in the field of production technology, especially in the area of factory operations and organizational topics. In the surrounding area, he is active here in the Center for Production Technology at THA. Mr. Braunreuther studied mechanical engineering at the Technical University of Munich (TUM) with a focus on aerospace engineering and completed his doctorate in the field of laser production technology in 2013 at the Institute for Machine Tools and Industrial

Management (iwb) at TUM. From 2014 onwards, he headed the department for production planning and control at Fraunhofer IGCV in Augsburg. Here he was also deputy head of the area processing technology from 2015. Since 2017 Stefan Braunreuther has been a professor for factory operations and production technology at the Faculty of Mechanical and Process Engineering at THA.

Marcel Öfele is a researcher in the field of production technology at THA. His research focuses on the application of artificial intelligence and operations research in production planning. He completed his bachelor's degree in mechanical engineering at Ulm University of Applied Sciences in 2018 and afterwards was responsible for the project management and development of artificial intelligence tools for engineering applications at Faurecia Clean Mobility. Since attaining a master's degree in Digital Engineering from Otto von Guericke University Magdeburg in 2021 he has been a research associate and doctoral candidate at the Center for Production Technology at the Faculty of Mechanical and Process Engineering at THA.

In this hands-on workshop, participants will learn about the digitalization of production planning and control. The first part will cover the challenges associated with planning new assembly systems or replanning existing ones. Methods for systematically solving these challenges and how artificial intelligence can be used to speed up the planning phase will be presented. The workshop then applies these planning methods to the assembly system of a drone within the learning factory "OITC – Plant 1" of THA.

The second part of the workshop covers the digitalization of order processing within assembly systems. The positive effects of the digital connection of MES and the assembly stations with the help of worker assistance systems on the performance of the drone assembly line will be demonstrated.



Panel Sessions

Global Engineering Education Panel

Tuesday, July 16, 2024, 1:20 – 3:30 pm (Onsite Room 1)

Panel Chair: Professor Don Reimer

Panel Chair



Professor Don Reimer
Chief Operating Officer
IEOM Society International
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.

Panelists

Prof. Dr.-Ing. Stefan Murza



Dr. Ahad Ali
Associate Professor
Director of Bachelor of Science in Industrial Engineering
Director, Master of Science in Industrial Engineering
Director of Smart Manufacturing and Lean Systems Research Group
A. Leon Linton Department of Mechanical, Robotics and Industrial Engineering
Lawrence Technological University, Southfield, Michigan, USA
Executive Director, IEOM Society International

Dr. Ahad Ali is an Associate Professor and Director of Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering in the A. Leon Linton Department of Mechanical, Robotics and Industrial Engineering at the Lawrence Technological University, Michigan. Dr. Ali is the Director of Smart Manufacturing and Lean Systems Research Group. He earned B.S. in Mechanical Engineering from Khulna University of Engineering and Technology, Bangladesh, Masters in Systems and Engineering Management from Nanyang Technological University, Singapore and Ph.D. in Industrial Engineering from University of Wisconsin-Milwaukee. Dr. Ali is the Executive Director of IEOM Society and Conference Chair of the Sixth International Conference on Industrial Engineering and operations Management, Kuala Lumpur 2016. He advised six doctorate students in Doctor of Engineering in Manufacturing Systems. Dr. Ali has published journal and conference papers. He was past President of IIE Lean Division. Dr Ali has done research projects with Chrysler, Ford, DTE Energy, Delphi Automotive System, GE Medical Systems, Harley-Davidson Motor Company, International Truck and Engine Corporation (ITEC), National/Panasonic Electronics, and Rockwell Automation. His research interests include quality, reliability, six sigma, manufacturing, simulation, optimization, scheduling, maintenance, e-manufacturing, lean, CAE and GD&T and. He is a member of ASEE, IEEE, IEOM, INFORMS, and SME.

Panel Speaker III

Panel Speaker IV

AI in Manufacturing Panel

Wednesday, July 17, 2024, 1:20 – 3:30 pm (Onsite Room 1)

Panel Chair: Jürgen Lenz

Panel Chair



Dr.-Ing. Jürgen H. Lenz
Faculty of Mechanical and Process Engineering
Technical University of Applied Science Augsburg
Augsburg, Bavaria, Germany

Jürgen Herbert Lenz is research professor in the field of AI Systems for Manufacturing at Technical University of Applied Science Augsburg. In addition, he serves as Deputy Scientific Manager at the Technology Transfer Center in Nördlingen, Bavaria. Prior to this position, he was Professor of Smart Manufacturing at the Technical University of Applied Sciences Würzburg-Schweinfurt (THWS). He gained Industry Experience as Solution Architect for implementation and consulting of (I)IoT-Applications working for INNEO Solutions GmbH based in Ellwangen, Germany. Previously he served as Postdoctoral Fellow at West Virginia University in Morgantown, WV, USA (2018-2020) and worked for Fraunhofer at the Institute for Manufacturing Engineering and Automation IPA in Stuttgart. He completed his Engineering Doctoral Degree at the University of Stuttgart, Germany (2018), his Master of Science in Industrial Engineering as a Fulbright Scholar at Oregon State University (2012) and the German Engineering Diploma in Manufacturing Engineering at Technical University of Applied Science in Ulm (2009). His research interests are in the field of Smart Manufacturing include Machine Tool Connectivity, IoT-Platforms, Data Analytics and Machine Learning.

Panelists



Felix Georg Müller
CEO and Co-Founder
Plus10 GmbH
Augsburg, Bavaria, Germany

Felix Georg Müller is CEO and Co-founder of plus10 GmbH, which he founded in 2019 together with Pablo Mayer and Thomas Hilzbrich as a high-tech spin-off of Fraunhofer IPA (Fraunhofer is Europe's largest applied research association with more than 72 institutes). He holds a diploma degree in production engineering from RWTH Aachen and Ecole Centrale Paris and additional data Science certifications. The spinoff plus10 develops, delivers and implements AI-based continuously learning software tools for the automated optimization of complex production lines and machines especially in regulated environment such as Pharma and Medtech. At Fraunhofer, Felix Georg Müller developed new methods for production optimization, patented, tested and industrialized them. At the same time, he built up a Fraunhofer research group for autonomous production optimization, which granted for example the first place in the Hans-Jürgen Warnecke award for innovation. His expertise covers in particular data-driven methods for production optimization as well as AI and machine learning particularly in the context of high frequency machine controller data and production data sets.



Klaus Spindler
Director of Artificial Intelligence
Forvia
Munich, Germany

Klaus Spindler is the Director of Artificial Intelligence Technologies at Forvia Clean Mobility. In this role he is responsible for driving forward the company's digitalization activities but also for the development of innovative applications that use artificial intelligence-based technologies. Prior to building up the team and competences in Clean Mobility in 2016 he used to be a long-standing leader of the European Application Engineering in Faurecia Emissions Control Technologies and EMCON Technologies. He has almost 30 years of experience in the Automotive Supplier Industry with a broad exposure to Product and Process Engineering.

He is a recognized regional Speaker in AI, having co-founded the annual Artificial Intelligence Conference of Swabia-Bavaria at the Chamber of Commerce. He also used to be the Chairman of the associated regional AI-Network with 80+ companies from various industries.

Klaus Spindler studied Mechanical Engineering at the Technical University in Munich, Germany, and Environmental Engineering at the University of Colorado in Boulder, USA, as a Fulbright scholar.



Dr. Semir Maslo
Head of Product Management
Big Data in Manufacturing GmbH
Germany

Dr.-Ing. Semir Maslo is an accomplished professional in the field of manufacturing and cutting technologies, with a focus on integrating digital solutions into production processes. Currently leading Product Management at Big Data in Manufacturing GmbH, he has been pivotal in developing the Virtual Quality Control system, an innovative product that utilizes real-time machine data for comprehensive quality assurance.

Prior to this role, Dr. Maslo dedicated seven years at the Fraunhofer Institute for Production Technology IPT in Aachen, where he led multiple digitalization projects aimed at enhancing aerospace milling efficiency. His work in this area has significantly contributed to improvements in process efficiency and product quality.

Dr. Maslo holds a Doctorate in Engineering from RWTH Aachen University. His academic and professional pursuits have been marked by a consistent focus on applying advanced technologies to practical manufacturing challenges, leading to improved operational efficiencies and product innovations.

Women in Industry and Academia (WIIA) Panel

Diversity and Inclusion Panel Sponsored by Ford Motor Company

Thursday, July 17, 2024, 1:30 – 3:30 pm (Onsite Room 1)

Panel Chair: Dr. Nadine Warkotsch

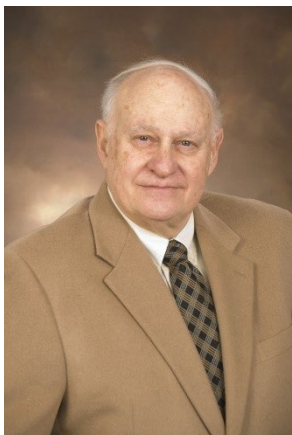
Panel Chair



Prof. Nadine Warkotsch
Vice President for Research and Sustainability
Technical University of Applied Sciences Augsburg
Augsburg, Bavaria, Germany

Prof. Dr. Nadine Warkotsch is Vice President for Research and Sustainability and Professor of Chemistry at the Technical University of Applied Sciences Augsburg. She studied chemistry at the Technical University of Kaiserslautern and completed her doctorate at the Ludwig Maximilian University of Munich in 2004. After completing her doctorate, she joined Henkel AG & Co. KGaA, where she held senior positions in various departments of chemical product development across Düsseldorf, Hamburg, and Barcelona, Spain. Her work at Henkel provided her with extensive experience in industrial chemical processes and product innovation. In 2013, she founded her own consulting company, specializing in assisting firms with the application and execution of technical research funding projects. In addition to her academic and professional pursuits, she is actively involved in sustainability initiatives. She co-chairs the Sustainability Advisory Board of the City of Augsburg, where she applies her scientific expertise to promote sustainable practices and policies.

Panelists



Professor Don Reimer
Chief Operating Officer
IEOM Society International
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.

Ghada El Mezni

Plenary Speakers

Plenary I

A CLEAN, SAFE
BUSINESS IS ESSENTIAL.
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Parallel Sessions

All Times are in Germany Time

Monday, July 15, 2024 – Virtual Competitions

Zoom Room 5 - Virtual	
8:00 am	Undergraduate Paper Competition Sponsored by Siemens and Undergraduate Research Competition sponsored by Daikin Applied
11:00 am	Doctoral Dissertation Competition sponsored by Airbus and Masters Thesis Competition
1:00 pm	Graduate Student Paper Competition sponsored by Eaton Corporation, Senior Design Project Competition sponsored by Tooling Tech Group, Supply Chain and Logistics Competition and High School STEM Competition
3:00 pm	Lean Six Sigma Competition sponsored by Tooling Tech Group, Simulation Competition and Human Factors and Ergonomics Competition sponsored by CINTAS

5:00 pm - Virtual Keynote: Dr. Luca Gualtieri, Faculty of Engineering, Free University of Bolzano, Senior Researcher at the “Smart Mini Factory laboratory” (SMF) for Industry 4.0 and at the “Extended Reality Laboratory and Training Center” (XR-lab).

Daimler (Mercedes-Benz in Stuttgart) Plant and KUKA Plant Tours

1:00 pm – 6:00 pm: Pre-conference registration

Tuesday, July 16, 2024

	Room 1 (Onsite)	Room 2	Room 3	Room 4	Room 5 – Virtual
7:00 am – 5:00 pm	Registration				
8:30 – 9:00 am	Welcome Address - Prof. Nadine Warkotsch - VP for Research and Sustainability, Technical University of Applied Sciences Augsburg				
9:00 – 9:40 am	Keynote I (Opening Keynote): Dr. Vasko Isakovic, Head of KUKA Simulation Business in the KUKA Robotics Group, Kuka AG, Augsburg				
9:40 – 10:10 am	Press and Networking				
10:10 – 10:50 am	Keynote II: Roland Jenning, Senior Vice President of Digital Solutions, Grenzebach				
10:50 – 11:30 am	Keynote III: Dr. Carsten Hahn Research Professor + Senior Director SAP – Karlsruhe University of Applied Science / SAP				
11:30 – 12:10 pm	Keynote IV: Sören Süße, Program Lead R&T, Kopter Germany (part of Leonardo Helicopters)				
12:10 – 1:30 pm	Buffet Lunch at University Cafeteria				
2:00 – 5:00 pm – Poster Session and Poster Competition					
1:30 – 3:15 pm	Global Engineering Education Panel	Design Thinking Workshop CEO, Joseph Paris LLC Chairman and Founder, XONITEK Group, Founder, Operational Excellence Society	Doctoral Dissertation Competition sponsored by Airbus Masters Thesis Competition	Artificial Intelligence and Data Science	Business Management and Operations Management
3:30 – 5:30 pm	Digital Manufacturing, Industry 4.0 and IoT		Undergraduate Paper, Undergraduate Research and Graduate Paper Competitions	Business Management and Operations Management	Engineering Management and Project Management

Wednesday, July 17, 2024

	Room 1	Room 2	Room 3	Room 4	Room 5 – Virtual
7:00 am - 5:00 pm	Registration				
8:00 am - 9:00 am	Case Studies and Best Practices	Automation, Robotics and Autonomous Systems	Lean Six Sigma Competition sponsored by Tooling Tech Group	Artificial Intelligence and Data Science	Manufacturing, Assembly and Design; Quality, Reliability and Maintenance
9:00 – 9:40 am	Keynote V: Dr. Max Dinkelmann, Senior Inhouse Consultant, TRUMPF Laser- und Systemtechnik GmbH				
9:40 – 10:20 am	Keynote VI: Klaus Spindler, Director of Artificial Intelligence, Forvia				
10:20 - 10:40 am	Networking Break				
10:40 - 11:20 am	Keynote VII: Felix Georg Müller, CEO and Co-Founder, Plus10 GmbH, Augsburg, Bavaria, Germany				
11:20 am - 12:00 pm	Keynote VIII: Dr. Semir Maslo, Head of Product Management, Big Data in Manufacturing GmbH, Germany				
12:00 - 1:30 pm	Buffet Lunch at University Cafeteria				
1:30 – 3:15 pm	AI in Manufacturing Panel	Toyota Kata and Emotional Intelligence Workshop By Mr. Dave Harry and Dr. Tony Prensá	Supply Chain and Logistics	Artificial Intelligence and Data Science	Sustainability, Green Systems and Energy
3:30 – 5:30 pm	Simulation, Optimization and Productivity Improvement		Sustainability, Green Systems and Energy	Engineering Management and Project Management	Artificial Intelligence and Data Science

Thursday, July 18, 2024

	Room 1	Room 2	Room 3	Room 5 – Virtual	F Building
7:00 am - 5:00 pm	Registration				
8:00 am - 9:00 am	Engineering Education and Curriculum Improvement	HF and Ergo Competition sponsored by CINTAS	Quality, Reliability and Maintenance	Engineering Education and Entrepreneurship	
9:00 – 9:40 am	Keynote IX: Dr.-Ing. Roman Ungern-Stemberg, Team Lead Operational Excellence, Fraunhofer Institute for Manufacturing Engineering and Automation, Stuttgart, Germany				
9:40 – 10:20 am	Keynote X: Heike Homann, Vice President of Operations Strategy, Airbus Helicopters, Donauwörth, Germany				
10:20 - 10:40 am	Networking Break				
10:40 - 11:20 am	Keynote XI: Simon Heck, Manufacturing Engineering Director EMEA, TI Fluid Systems, Rastatt, Germany				
11:20 am - 12:00 pm	Keynote XII: Dr. Steffen Klarmann, Advanced Development Director Manager, Valeo SA, Wemding, Germany				
12:00 - 1:30 pm	Buffet Lunch at University Cafeteria				
1:30 – 3:15 pm	WIIA + D&I Panel		Supply Chain and Logistics	Sustainability, Green Systems and Energy	Workshop on Digitalization in Production Planning and Control – Artificial Intelligence in Layout Planning and Digital Methods in Assembly by Prof. Dr.-Ing. Stefan Braunreuther and Marcel Öfele
3:30 – 5:30 pm	Manufacturing, Assembly and Design		Sustainability, Green Systems and Energy	Business Management and Operations Management	
7:00 - 10:00 pm	Awards Ceremony and Gala Dinner - Hotel Maximilian's				

Post Conference – July 19 (Friday)

Daimler Factory Plant Tour (Mercedes Benz) – Stuttgart

July 15, 2024 (Monday)

8:00 am – 11:00 am, MONDAY

Zoom Room 4

Session Chair:

Zoom Host: Dr. Mizanur Rahman, IEOM Society

Undergraduate Student Paper Competition sponsored by Siemens

ID 164 A Predictive Model for Personalized Healthcare Management for Patients with Chronic Diseases

Majaha Zinyika, Siphilisiwe Sibanda, Jambaya Luke, Meluleki Sibindi, Prosper N. Dube, Crymore Mugwanda, Sibusisiwe Dube and Belinda Mutunhu Ndlovu, Department of Informatics, National University of Science and Technology, P O Box AC 939, Ascot, Bulawayo Zimbabwe

ID 33 Analyzing the Student Factors that Affect Attention of Engineering Students during Face-To-Face Classes using Structural Equation Modelling

Meldrick M. Pesigan, Charlson Elisar D. Manabat, Ysaiah Lourret J. Naig and Maureen T. Villanueva, Undergraduate, Industrial Engineering Department, University of Santo Tomas, Manila, Philippines
Assoc. Prof. Carlos Ignacio P. Lugal Jr., Ph.D., PIE, ASEAN Engr, Faculty, Industrial Engineering Department, University of Santo Tomas Manila, Philippines

ID 75 Blockchain-Based Fraud Detection System for Healthcare Insurance Claims

Hopewell. B. Ncube, Belinda Ndlovu and Sibusisiwe Dube, Department of Data Analytics and Informatics, Faculty of Applied Sciences, National University of Science and Technology, Bulawayo, Zimbabwe, P.O Box AC939, Ascot, Bulawayo, Zimbabwe

ID 181 DMADV Approach in Increasing Efficiency in Production Operation: A Case Study in Metal Fabrication Industry Utilizing Pro Model Simulation

Miguel Louis B. Belen, Rochelle Ann V. Dela Cruz, Janelle S. Flores, Andre Brian S. Gellido, Prince T. Hernandez, Bryan Tyrus R. Serfa Juan, Nikko Luis T. Tabasa and Maricar M. Navarro, Industrial Engineering Program, College of Engineering and Architecture, Technological Institute of the Philippines, Quezon City, Philippines

ID 179 Efficiency Enhancements on Footwear Production Line: A Case Study Utilizing ProModel Simulation

Bernard Alapide Jr., Chustin Luwis Gutlay, Joseph Raniag Macarulay, Ron Michael Palma, Hannah Jillian Reyes, Jon Joshua Reyes, Nikko Luis Tabasa and Maricar Navarro, Department of Industrial Engineering, Technological Institute of the Philippines, Quezon City, Philippines

ID 210 Enhancing Competitiveness in the Peruvian Textile Industry through Lean Manufacturing: A Case Study on Reducing Defects and Improving Efficiency

Antonio Carlos Touzett-Cabellos, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
Ken Christian Uene-Tengan, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
Martín Fidel Collao-Díaz, Research Professor, Faculty of Engineering, Universidad de Lima, Peru

ID 206 Enhancing Operational Efficiency in the Peruvian Footwear Industry through Lean Manufacturing and PDCA-Kaizen Implementation

Luciano Arturo Martinez-Libert, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
Arturo Ricardo Martinez-Espinal, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
Martín Fidel Collao-Díaz, Research Professor, Faculty of Engineering, Universidad de Lima, Peru

ID 156 Mental Health Chatbot for University Students Support and Encouragement

Tauro Tapiwa, Sibusisiwe Dube and Belinda Mutunhu Ndlovu, National University of Science and Technology, Bulawayo, Zimbabwe

ID 190 Optimization of Inventory Management in the Peruvian Pharmaceutical Industry through Lean Supply Chain Management Methodology in the Post-Pandemic Context

Daniela Nicoll Contreras-Alva, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
Pedro Gustavo Buleje-Castañeda, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
Martín Fidel Collao-Díaz, Research Professor, Faculty of Engineering, Universidad de Lima, Peru

ID 216 Optimizing Operational Efficiency in Automotive Maintenance SMEs through PDCA Integration and Systematic Layout Planning

Daniel García Calderón-Mendoza-del-Solar, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
Miguel Caleb Montoya-Nunez, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
Martín Fidel Collao-Díaz, Research Professor, Faculty of Engineering, Universidad de Lima, Peru

ID 178 Process Enhancement using Pro Model Simulation: A Case Study in the Third Party Logistic Service Company in the Philippines

Mark Jherald Acilo, Trishia Anne Marie Cobalida, Rhiza Anne Barbara Lopez, Jake Quijano, Nikko Luis Tabasa and Maricar M. Navarro, Industrial Engineering, Technological Institute of the Philippines, Quezon City, MNL 1109, Philippines

ID 46 The role of hydrogen and fuel cells in the global energy system Undergraduate Student Paper Competition sponsored by Siemens
Abid Al Hossain IUBAT Bangladesh

Undergraduate Research Competition sponsored by Daikin Applied

ID 219 Enhancing Operational Efficiency in Craft Beer Production: Implementation of Lean Manufacturing and TPM Methodologies in SMEs

Ronald Wilmer Perez-Peralta, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
 Adonis Meza-Estrada, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
 Martín Fidel Collao-Díaz, Research Professor, Faculty of Engineering, Universidad de Lima, Peru

ID 79 Loan Eligibility System Using Machine Learning

Alpha Zimkhulu Mnkandla, Belinda Ndlovu, Sibusisiwe Dube, Martin Muduva and Fungai Jacqueline Kiwa, Department of Informatics and Analytics
 National University of Science and Technology, Bulawayo, Zimbabwe

ID 215 Optimization of the Clothing Production Line in Peruvian SMEs through the Implementation of Lean Manufacturing: A Case Study

Santiago Bravo de Rueda-Alarcon, Bachelors in Industrial Engineering, Faculty of Engineering, Universidad de Lima, Peru
 Martín Fidel Collao-Díaz, Research Professor, Faculty of Engineering, Universidad de Lima, Peru

ID 74 Towards Health 4.0: Blockchain-based Electronic Health Record for care coordination

Robert Sibanda, Belinda Ndlovu and Sibusisiwe Dube, Department of Data Analytics and Informatics, Faculty of Applied Sciences
 National University of Science and Technology, Bulawayo, Zimbabwe, P.O Box AC939, Ascot, Bulawayo, Zimbabwe

11:00 am – 1:00 pm, MONDAY**Zoom Room 4****Session Chair: Peter Cocron, Technical University of Applied Sciences Augsburg, Germany****Zoom Host: Aqib Islam, IEOM Society****Doctoral Dissertation Competition sponsored by Airbus****Masters Thesis Competition****ID 155 A Framework for adopting AI Chatbots: A case Zimbabwe's Non-Governmental Organizations**

Macdonald Dube, Sibusisiwe Dube and Belinda Mutunhu Ndlovu, National University of Science and Technology, Bulawayo, Zimbabwe

ID 70 A Novel Ensemble-based Machine Learning Model for Anomaly Detection in CDRs to Identify International Revenue Share Fraud

Remalia Mayeni, Sibusisiwe Dube and Belinda Ndlovu, Department of Informatics and Analytics, National University of Science and Technology
 Bulawayo, Zimbabwe

ID 37 Design-driven Defects in Laser Powder Bed Fusion: Correlation Between In-situ Monitoring Data and Ex-situ Measurements

Vishal Sundar and Nikhil Belsure, Chalmers University of Technology, Gothenburg, SE412 96, Sweden

ID 68 Exploring the Factors Influencing the Adoption of Adaptive Learning in Higher Education

Edison Nyagumbo, NUST, Zimbabwe

ID 76 Investigating the factors driving the adoption of smart helmets in mining operations by artisanal miners in Zimbabwe

Kwanele Ruth Ndlovu, Philip Nyoni, Belinda Mutunhu Ndlovu, Sibusisiwe Dube and Samukeliso Sukoluhle Dube, National University of Science and
 Technology, Bulawayo, Zimbabwe

ID 73 Leveraging machine learning to manage diabetes in a specific population. A systematic review

Sibusisiwe Dube, Research Professor, Department of Informatics, National University of Science and Technology, Bulawayo, Zimbabwe
 Belinda Ndlovu, University Lecturer, Department of Informatics, National University of Science and Technology, Bulawayo, Zimbabwe
 Isaac Murere, MSc Student, Department of Informatics, National University of Science and Technology, Bulawayo, Zimbabwe

1:00 – 3:00 pm, MONDAY, July 15**Zoom Room 4****Session Chair: Helmut Wieser, Technical University of Applied Sciences Augsburg****Zoom Host: Aqib Islam, IEOM Society****Graduate Student Paper Competition sponsored by Eaton Corporation****ID 196 Bloque en Sistema Braille**

Brenda Cotrina, Industrial Engineering Students, University of Lima, Lima, Perú, University of Lima, Lima, Av. Javier Prado Este 4600, Peru
 Andrea Reyes, Industrial Engineering Students, University of Lima, Lima, Perú, University of Lima, Lima, Av. Javier Prado Este 4600, Peru
 Dr. Fabricio Paredes, Researcher at the Fablab Manufacturing Laboratory, University of Lima, Lima, Perú, University of Lima, Lima, Av. Javier Prado
 Este 4600, Peru

ID 146 Unveiling the Impacts of Inadequate Fourth Industrial Revolution Infrastructure on Higher Education in South Africa

Thalente Nkosi and Bogolo Ntombela, Department of Civil Engineering, Duran University of Technology, Pietermaritzburg, RSA
 Morakane Khahledi, The IIE's Varsity, The Independent Institute of Education, College, Cape Town
 Stephan Molusiwa Ramabodu, Department of Construction Management and Quantity Surveying, Duran University of Technology, Durban, RSA

High School STEM Competition

ID 69 Theory Of ultimate collision

Saransh Bachchan, Sanatan Dharam Vidya Mandir HUDA, India

ID 243 Application of artificial intelligence in healthcare field Cases and TrendsKim See You and Shin Dong Ho, Graduate and Professor, My Paul School, 12-11, Dowontongmi-gil, Cheongcheon-myeon, Goesan-gun Chungcheongbuk-do, Republic of Korea
Jeongwon Kim, Department of Economics, College of Economics, Nihon University, 3-2 Kanda-Misakicho, 1-chome, Chiyoda-ku, Tokyo, Japan**ID 244 Identification of Gene Groups that Classify Cancer through Machine Learning**Yeonju Lee and Shin Dong Ho, Graduate and Professor, My Paul School, 12-11, Dowontongmi-gil, Cheongcheon-myeon, Goesan-gun Chungcheongbuk-do, Republic of Korea
Jeongwon Kim, Department of Economics, College of Economics, Nihon University, 3-2 Kanda-Misakicho, 1-chome, Chiyoda-ku, Tokyo, Japan**ID 245 Research on Drone Autonomous Flight**Se In Jung and Shin Dong Ho, Graduate and Professor, My Paul School, 12-11, Dowontongmi-gil, Cheongcheon-myeon, Goesan-gun Chungcheongbuk-do, Republic of Korea
Jeongwon Kim, Department of Economics, College of Economics, Nihon University, 3-2 Kanda-Misakicho, 1-chome, Chiyoda-ku, Tokyo, Japan**ID 246 Analysis of the Impact of Car Design on Sales Rate using CNN**Benny Choi and Shin Dong Ho, Student and Professor, My Paul School, 12-11, Dowontongmi-gil, Cheongcheon-myeon, Goesan-gun Chungcheongbuk-do, Republic of Korea
Jeongwon Kim, Department of Economics, College of Economics, Nihon University, 3-2 Kanda-Misakicho, 1-chome, Chiyoda-ku, Tokyo, Japan

Supply Chain and Logistics Competition

ID 151 An Analysis of the Infrastructure Factors that Affect Railway Capacity Utilization Supply Chain and Logistics Competition
Mokgadi Matsena University of Johannesburg South Africa

ID 157 Strengthening National Defense: Military Supply Chains with PARDS Integration in the Philippine Army's Requisition ProcessLTC Alan P. Sillacay (OS) PA, LTC Erasto Gallardo (INF) PA and MAJ Carlo Dendiego (FS) PA, Master of Logistics and Supply Chain Management, Graduate Studies, Technological Institute of the Philippines, Quezon City Philippines, Military Servicemen, Philippine Army
Fort Bonifacio, Taguig City, Philippines
Cherry D. Casuat, Julius S. Cansino and Arvin De La Cruz, Professor, Computer Engineering, Polytechnic University of the Philippines, Professor, Graduate School of Engineering, Polytechnic University of the Philippines, Sta. Mesa, Manila, Philippines**ID 195 Risk Management in The Corn Commodity Supply Chain as a Raw material For Sustainable Poultry Feed: a Systematic Literature Review**Kulsum, Research Student, Graduate Program of Agro-industrial Engineering, Faculty of Agricultural Engineering and Technology IPB University, Bogor, Indonesia
Anas Miftah Fauzi, Illah Sailah, Ono Suparno and Hoetomo Lembito, Research Professor, Department of Agro-industrial Technology, Faculty of Agricultural Engineering and Technology IPB University, Bogor, Indonesia**ID 135 Robust Optimization for Cost Validation in Designing Service Networks**

Ashish Chandra, College of Business, Illinois State University, Normal, IL 61761, USA

Senior Design Project Competition sponsored by Tooling Tech Group

3:00 – 5:00 pm, MONDAY, July 15

Zoom Room 4

Session Chair: Ulrich Weigand, Technical University of Applied Sciences Augsburg, Germany

ZooH Host: Aqib Islam, IEOM Society

Lean Six Sigma Competition sponsored by Tooling Tech Group

ID 251 Application of Lean Six Sigma in Inventory Optimization at a Water and Electricity Company

Mohamed A. Allam, Afnan Al Hemeiri, Roda Al Marzooqi, Maryam Al Ameri and Saed Amer, Department of Management Science and Engineering College of Engineering, Khalifa University, Abu Dhabi, UAE

Simulation Competition

ID 107 Designing a Smart System for Predicting Carbon Dioxide Emissions from Traditional Wood-Fired Heating in Homes During the Winter SeasonRasha A Al-Shamrani, Mona H Alfweah, Doha A Al-Alatiq, Tasnim M Adi, Almaha B AlKhabti and Wejdan H Alkhathami, Undergraduate Student in Industrial Engineering Department, College of Engineering, University of Bisha, Bisha 61922, Saudi Arabia
Khaled Ali Abuhasel, Full Professor in Industrial Engineering, Department, College of Engineering, University of Bisha, Bisha 61922, Saudi Arabia**ID 44 Good Communication Methods & Stakeholder Engagement Resulting in Sustainable Project Management**

Prof. Pule Kholopane and Dr. Thakaramahlaha Lehohla, Faculty of Engineering and the Built Environment, University of Witwatersrand Department of Industrial Engineering, Johannesburg, South Africa

ID 198 Impact of Electric Vehicle Inclusion on the Driver Shift Scheduling Problem

Luis F. Mujica, Student, Technological University of Pereira, Pereira, Colombia

Juan P. Chavez, César A. Marin and Laura M Escobar, Project coordinator, Research manager, Research Coordinator, I+D+I - Integra S.A Pereira, Colombia

ID 211 Witness Horizon 25 DES Simulation Modeling of Centrally Dispatched Automated Mobile Robots

Tomasz Kantoich, Production Systems and Digitalization, ZF Automotive Germany GmbH, Alfdorf, Germany

Neil G. Murray Jr., A. Leon Linton Department of A. Leon Linton Department of Mechanical, Robotics and Industrial Engineering, Lawrence Technological University, Southfield, MI 48075, USA

Passive Safety Electronics Senior Technical Specialist, ZF Corporation, Farmington Hills, MI 48331, USA

Human Factors and Ergonomics Competition sponsored by CINTAS

ID 228 Prevalence of Musculoskeletal Disorders and Postural Analysis in Puffed Rice Industry

Qutubuddin Syed Mohammed, P.D.A. College of Engineering, India

ID 175 A framework to incorporate Health 4.0 in an operating theatre: Case study of Zimbabwe's Central Hospitals

Winnie Mutenhabundo, Department of Industrial and Mechatronics Engineering, University of Zimbabwe, P.O Box MP167, Mt Pleasant, Harare, 263, Zimbabwe.

Tawanda Mushiri, Executive Director – Technical, Scientific and Industrial Research and Development Centre (SIRDC), 1574 Alpes Road, Scam Way, Harare, Zimbabwe

Biomedical Engineering and Healthcare Technology (BEAHT) Research Centre, Faculty of Health Sciences, University of Johannesburg, South Africa

Patson Zvandasara, Department of Physics, University of Zimbabwe, P.O Box MP167, Mt Pleasant, Harare, 263, Zimbabwe.

Timothy Gutu, Department of Obstetrics & Gynecology, University of Zimbabwe, P.O Box MP167, Mt Pleasant, Harare, 263, Zimbabwe

Charles Mbohwa, Distinguished Professor, University of South Africa, College of Science, Engineering and Technology, 28 Pioneer Ave, Florida Park, Roodepoort

ID 218 Design of an Ergonomic Back Support to Prevent Lumbar Injuries

Gino Leonardo Solis-Sparrow, Facultad de Ingeniería, Carrera de Ingeniería Industrial, Universidad de Lima, Lima, Perú

Jair Dario Angeles-Morales, Facultad de Ingeniería, Carrera de Ingeniería Industrial, Universidad de Lima, Lima, Perú

Marcos Fernando Ruiz-Ruiz, Associate Professor, Facultad de Ingeniería, Carrera de Ingeniería Industrial, Universidad de Lima, Lima, Perú

Oscar Eduardo Sakay-Rodríguez, Advisor, Kansei Analytics, 10833 Hillrose Ave, Baton Rouge, LA 70810, USA

5:00 pm - Virtual Keynote

Dr. Luca Gualtieri, Faculty of Engineering, Free University of Bolzano, Senior Researcher at the “Smart Mini Factory laboratory” (SMF) for Industry 4.0 and at the “Extended Reality Laboratory and Training Center” (XR-lab).

July 16, 2024 (Tuesday)

July 16, 2024 (Tuesday) – Session: 8:0 am – 12:10 pm – Onsite Room 1

Welcome and Keynotes

8:30 – 9:00 am

Conference Welcome and Opening:

**Prof. Nadine Warkotsch - Vice President for Research and Sustainability
Technical University of Applied Sciences Augsburg**

9:00 – 9:40 am

Keynote I (Opening Keynote):

Dr. Vasko Isakovic

**Head of KUKA Simulation Business in the KUKA Robotics Group
Kuka AG, Augsburg, Bavaria, Germany**

9:40 – 10:10 am

Press and Networking

10:10 – 10:50 am

Keynote II:

Roland Jenning, Senior Vice President of Digital Solutions, Grenzebach

10:50 – 11:30 am

Keynote III:

Dr. Carsten Hahn Research Professor

Senior Director SAP – Karlsruhe University of Applied Science / SAP

11:30 – 12:10 pm

Keynote IV:

Sören Süße, Program Lead R&T, Kopter Germany (part of Leonardo Helicopters)

12:10 – 1:30 pm

Buffet Lunch at University Cafeteria

2:00 - 5:00 pm – Poster Competition

ID 230 “Mitigate Power Crisis by using Solar Energy as the Alternative of Fossil fuel Energy”

Gazi Abu Raihan, BETA-TECH Engineering International, Bangladesh

ID 134 Strong Perturbation Bounds for Markov Chains

Nabil Ait Yala, Faculté des Sciences et Sciences Appliquées, University of Bouira, Bouira, Algeria

Badredine Issaadi, Ecole Supérieure en Sciences et Technologies de l'Informatique et du Numérique, Campus Amizour, Bejaia, Algeria

Karim Abbas, Faculté des Sciences Exactes, University of Bejaia, Bejaia, Algeria

July 16, 2024 (Tuesday) – Session: 1:30 – 3:15 pm

1:30 – 3:15 pm, TUESDAY, July 16

Onsite Room 1

Panel Chair: Professor Don Reimer

Panelists

Prof. Dr.-Ing. Stefan Murza

Dr. Ahad Ali

1:30 – 3:15 pm, TUESDAY, July 16

Onsite Room 2

Design Thinking Workshop

Joseph Paris

CEO, Joseph Paris LLC

Chairman and Founder, XONITEK Group of Companies

Founder, Operational Excellence Society

Frankfurt, Hesse, Germany

1:30 – 3:15 pm, TUESDAY

Onsite Room 3

Session Chair: Dr.-Ing. Stefan Braunreuther – Faculty of Mechanical and Process Engineering, Technical University of Applied Science Augsburg, Augsburg, Bavaria, Germany

Doctoral Dissertation Competition sponsored by Airbus

ID 225 Designing a Knowledge-based System to Facilitate the Process of Fall Risk Assessment in Construction
Vigneshkumar Chellappa, Postdoctoral Researcher, School of Design, The Hong Kong Polytechnic University, Kowloon, Hong Kong
Urmi Ravindra Salve, Associate Professor, Department of Design, Indian Institute of Technology, Guwahati 781039, India

ID 11 Reasons why people start small scale mining companies in South Africa
Zandisile Mkubukeli, University of Johannesburg, South Africa
Emmanuel Edoun, University of Johannesburg, South Africa

ID 154 The role of Business Incubation Centers (BICs) in fostering entrepreneurship in Pakistani universities
Shah Awan, Abdul Wali Khan University Mardan, Pakistan

Masters Thesis Competition

ID 139 Integration of Social Media into Supply Chain Management: Antecedents and Value Outcomes from a Case Study Perspective
Emmanuel Doe Oposika Aggudey and Joshua Ofori-Amanfo, MPhil Candidate and Senior Lecturer, Department of Operations and Management Information Systems, University of Ghana Business School, PO Box LG 78, Legon, Accra, Ghana
Yaa Amponsah Twumasi, Lecturer, Faculty of Management Studies, Department of Marketing, University of Professional Studies, Accra, Ghana

ID 227 Leveraging Blockchain to Track and Improve the Sustainability of Shared Economy Models. A Platform for Shared Last-Mile Delivery
Omar S. Abdulkarim, Department of Industrial Engineering, American University of Sharjah, Sharjah, UAE
Malick Ndiaye, Department of Industrial Engineering, American University of Sharjah, Sharjah, UAE

ID 176 Predicting Glass Forming Ability (GFA) of Metallic Glasses Using Machine Learning Techniques
Abu-Salah S. Fahid and Dr. Maalouf. Elsa, Maroun Semaan Faculty of Engineering and Architecture, American University of Beirut (AUB), Beirut, Lebanon

ID 53 Study of Reliability Centered Maintenance and Failure Mode Effect Analysis (Fmea) In Textile Manufacturing Industries (Case at Spinning Section of Bahir Dar Textile Share Company)
Befekadu Asfaw, Amhara Bureau of Industry and Investment, Ethiopia

ID 92 Sci-fi Skylines: Investigating the influence of Dune on Dubai's Urban Landscape
Alexander Wong, St Patrick's School, Singapore, Singapore

1:30 – 3:15 pm, TUESDAY

Onsite Room 4

Session Chair: Prof. Dr. Wolfgang Kratsch - Technical University of Applied Sciences Augsburg

Artificial Intelligence and Data Science

ID 140 Performance Analysis of Bidirectional Associative Memory (BAM) and Feed Forward Multilayer Error Back-Propagation Network (BPN) for Alphabetic Character Recognition by Digital Image Processing and Neural Network
Mainur Rahman Tarafder, IICT, BUET, Bangladesh

ID 81 A Data Visualization and Exploration Course Model
Ali Ardalan, Professor of Business Analytics, Information Systems and Decision Sciences Department, Strome College of Business, Old Dominion University, Norfolk, VA 20529, USA

ID 30 Novel Framework for Implementing Artificial Intelligence Banking
Mahdi Bastan, Negin Hassani and Behnaz Salimi, School of Industrial Engineering, College of Engineering, University of Tehran, Tehran, Iran
Ali Ghazizadeh, School of Industrial Engineering, Iran University of Science and Technology, Tehran, Iran
Mahdi Hamid, School of Industrial Engineering, College of Engineering, University of Tehran, Tehran, Iran
Sareh Akbarpour, Department of Industrial Engineering, College of Engineering, University of Eyvanekey, Garmsar, Iran

ID 129 Analysis and Forecasting of The Brazilian Household Appliance Sector Using Machine Learning Models
Icaro De Jesus Gomes Do Bonfim and Orlando Yesid Esparza Albarracín, Department of Production Engineering, University Presbyterian Mackenzie, São Paulo, Brazil

ID 1 Design Data Driven Decision Using Artificial Intelligence Capabilities Case in Sultanate of Oman
Mahmood Abdullah Al Kindi, Department of Mechanical and Industrial Engineering, Sultan Qaboos University, Oman

ID 86 Early Prediction Methodology of Product Quality in Automotive Manufacturing Environment Using Data Analysis and Machine Learning
Anand Balaji, Department of Advanced Industrial Engineering, Valeo Sensors and Switches, 86650 Wemding, Germany
Steffen Klarmann, Advanced Industrial Director, Valeo Sensors and Switches, 86650 Wemding, Germany

2:00 – 3:45 pm, TUESDAY, July 16

Zoom Room 5

Session Chair: Albatool Molah, Effat University, Saudi Arabia

Business Management and Operations Management

ID 118 Application of Forecasting Technique in Food Sector: Case Study

Dr. Hassan Balfaqih, Albatool Molah, Entesar Al Dhafi, Lara Abulola, Layan Aboueldahab and Malak Qahtan, Effat University, Saudi Arabia

ID 83 Assessing Public Perception on Service Delivery: A Case of Selected Communities within the Gauteng Province in South Africa

Nkube Eva Masetlwa, Dr. Emmanuel Innocents Edoun and Prof. Nita Sukdeo, Faculty and Engineering and the Built Environment, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 191 Eco-innovation, knowledge management, and government support: Exploring the drivers of sustainable operations performance

Vu Van Nguyen, PhD Student, Center for Public Administration, International University, Vietnam National University-Ho Chi Minh City, Vietnam
An Phuc Truong, Bachelor Student, The School of Business, International University, Vietnam National University-Ho Chi Minh City, Vietnam
Nhu Ngoc Dang Tran, Bachelor Student, The School of Business, International University, Vietnam National University-Ho Chi Minh City, Vietnam
Phuong Van Nguyen, Lecturer, Center for Public Administration, International University, Vietnam National University-Ho Chi Minh City, Vietnam

ID 182 Harmonizing Sustainability: Towards a Robust Framework for Green Lean Integration in Upstream Oil and Gas Operations

Saif Al Hamhami, Doctor of Business Administration Student at Derby Business School, College of Business, Law and Social Sciences, University of Derby, Derby, United Kingdom

ID 78 Investigating the Technical Skills Needed to Improve Rail Network Performance

T Moloto, B.B.S Makhanya, J.H.C Pretorius and H. Nel, Faculty of Engineering and Built Environment, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 167 Modernizing Administrative Operations in Philippine Army Battalions: A Framework for Enhanced Efficiency and Security through Secure Electronic Systems

LTC Erasto Gallardo (INF) PA, LTC Alan P. Sillacay (OS) PA and MAJ Carlo Dendiego (FS) PA, Military Servicemen, Philippine Army, Fort Bonifacio, Taguig City, Philippines
Cherry D. Casuat, Irene F. Salvador and Ryan C. Reyes, Professor, Computer Engineering, Polytechnic University of the Philippines, Sta. Mesa, Manila, Philippines
Professor, Urdaneta City University, Pangasinan, Philippines, Dean, College of Engineering, Technological University of the Philippines Manila, Philippines

ID 84 Poor Revenue Collection within South African Municipalities: Causes and Consequences

Nkube Eva Masetlwa, Dr. Emmanuel Innocents Edoun and Prof. Nita Sukdeo, Faculty and Engineering and the Built Environment, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 99 Service Operation Management Practices of KidZania

Albatool Molah, Effat University, Saudi Arabia

ID 192 The Influence of Leadership, Creativity Management, Organizational Innovation, Government Support, and Environmental Compliance on Driving Business Performance of Enterprises in Viet Nam

Hieu Thuc Tran, PhD Student, Center for Public Administration, International University, Vietnam National University-Ho Chi Minh City, Vietnam
Quyen Nguyen Thi Diem, Phuong Ho Thi My and Nhu Nguyen Ngoc Quynh, Bachelor Student, The School of Economics, Finance, and Accounting International University - Vietnam National University, Ho Chi Minh City, Vietnam
Phuong Van Nguyen, Associate Professor, Center for Public Administration, International University, Vietnam National University-Ho Chi Minh City, Vietnam

July 16, 2024 (Tuesday) – Session: 3:30 – 5:30 pm

3:30 – 5:30 pm, TUESDAY, July 16**Onsite Room 1****Session Chair: Prof. Dr. Tobias Leopold - Esslingen University of Applied Sciences**

Digital Manufacturing, Industry 4.0 and IoT**ID 59 Review of 3D Printing VS Injection Molding VS CNC Machining Processes: Simulation and Fabrication**

Annamalai Pandian, Faculty, Department of Mechanical Engineering, Saginaw Valley State University, University Center, Michigan, USA

ID 221 Abstract: Towards Enabling MQTT for Real-Time Internet of Things

Abdelmajid Khelil, Michael Deller and Lobna Badraoui, Landshut University of Applied Sciences, Institute for Data and Process Science, Am Lurzenhof 1, D-84036 Landshut, Germany

ID 223 Conceptual Design and Prototypical Implementation of a Digital Twin for a Modular Manufacturing System

Michael Reisig, Jürgen H. Lenz and Florian Kerber, Technical University of Applied Science Augsburg, Nördlingen, Germany

ID 194 Evaluation of Online Shopping Sites Using Industry 4.0 Solutions with The Simple Additive Weighting Method Using Spherical Fuzzy Sets: A Case of Türkiye

Erdem Aksakal and Zeynep Durmaz, Department of Industrial Engineering, Atatürk University, Erzurum, Türkiye

ID 82 Implementing Apache Kafka in Industrial Environment to enable Data Streaming for Cloud-Based Applications

Hamze Hamze, Machine Learning Engineer, Valeo Sensors and Switches, Wemding, Bavaria, Germany
Steffen Klarmann, Advanced Industrial Director, Valeo Sensors and Switches, 86650 Wemding, Germany

ID 197 Industry 4.0 in Hydroponic Farming: Leveraging Digital-twin for Smart Autonomous Operations

Rachita Gupta, Assistant Professor, Operations Management and Decision Sciences, Indian Institute of Management Kashipur, Uttarakhand - 244713, India

ID 102 Reviewing Potential of Digital Twin Technology to Facilitate Sustainability in Manufacturing

Zahid Usman, Sr Principal Digital Manufacturing Engineer, Applications and Development Team, ITP Aero UK
Muhammad Imran and Salman Pervaiz, Department of Mechanical and Industrial Engineering, Rochester Institute of Technology – Dubai, UAE

ID 188 Rule-based Automated Waste Detection for Industry 4.0

Makki Ben Salem, Abdalla Sino and Abdelmajid Khelil, Landshut University of Applied Science, Institute for Data and Process Science, Am Lurzenhof 1, D-84036 Landshut, Germany

3:30 – 5:30 pm, TUESDAY, July 16

Onsite Room 2

Design Thinking Workshop

Joseph Paris

CEO, Joseph Paris LLC

Chairman and Founder, XONITEK Group of Companies

Founder, Operational Excellence Society

Frankfurt, Hesse, Germany

3:30 – 6:30 pm, TUESDAY

Onsite Room 3

Session Chair: Dr. Florian Kerber – Faculty of Electrical Engineering, Technical University of Applied Science Augsburg, Germany

Undergraduate Student Paper Competition sponsored by Siemens

ID 173 Evaluating Team Workload Through Physiological Synchrony: An Exploratory Study Using MdRQA Data to Assess Teams in Action

Joshua Braun, Natalie Hogh and Simone Kubowitsch, Department of Business Psychology, Technical University of Applied Sciences Augsburg Augsburg, Bavaria, Germany

ID 262 Implementation of 5S methodology in a security systems service company for improving productivity indicators

Juan Jacinto Gómez Meza, Research Professor, Ricardo Palma University, Santiago de Surco, Lima, Perú
Jorge Adrian Pacheco Zevallos, Professional School of Industrial Engineering, Faculty of Engineering, Ricardo Palma University Santiago de Surco, Lima, Perú

Undergraduate Research Competition sponsored by Daikin Applied

ID 123 Dynamic Community Detection for Last-mile Delivery Optimization with Population Shifts Using Mathematical Programming

Dhruv Patel, Department of Engineering Design and Department of Management Studies, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India

Viswanath Kumar Ganesan and Kiruthiga Anandacoumar, Tata Consultancy Services, Chennai, Tamil Nadu, India

ID 122 Instantaneous Last Mile Delivery Planning

Ajitesh Kumar, Department of Engineering Design, Department of Management Studies, Indian Institute of Technology, Madras, Chennai, India
Viswanath Kumar Ganesan and Haripriya K, Tata Consultancy Services, Chennai, India

ID 121 Integrated Multi-Echelon Inventory Replenishment for Supply Chain Networks

Ved Patel, Department of Engineering Design & Department of Management Studies, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India

Viswanath Kumar Ganesan and Shubham Gedam, Tata Consultancy Services, IIT Madras Research Park, Chennai, Tamil Nadu, India

Supply Chain and Logistics Competition

ID 163 Disruptive Innovation in Space Economy Supply Chains: Analyzing Advanced Manufacturing for Sustainability and Resilience

Janne Heilala, Dept. of Mech and Mat Eng., Faculty of Tech, University of Turku, Turku, Finland

ID 132 Inventory Flow of Subscription-Based Business Models with Circular Economy Practices

Behzad Maleki Vishkaei, Department of Management and Technology, Bocconi University, Milan, Italy
Pietro De Giovanni, SDA Bocconi School of Management, Milan, Italy

ID 201 Uncertain Supply of Recycled Plastic in Closed-Loop Supply Chain: Challenges and Mitigation Strategies for Plastic Circular Economy

Muhammad Omair and Brian Vejrum Wæhrens, Department of Materials and Production, Aalborg University | Fibigerstræde 16 | 9220 Aalborg, Denmark

Graduate Student Paper Competition sponsored by Eaton Corporation

ID 161 Estimation of Global Horizontal Irradiance in Tustin, California, Using several Deep-learning Approaches

Fathy Alkhatib, Maher Maalouf and Mohammad Omar, Department of Industrial and Systems Engineering, Khalifa University, Abu Dhabi, United Arab Emirates

ID 214 The Benefits of Adopting Fourth Industrial Revolution (4IR) Technologies in Higher Education Institutions (HEIs)- a Case of South African Institutions

Thalente Nkosi, Department of Construction Management, Nelson Mandela University of Technology, Gqeberha, RSA
Bogolo Ntombela and Morena Nkomo, Department of Construction Management and Quantity Surveying, University of Johannesburg, Johannesburg, RSA

Sibongile Dlamini, Department of Civil Engineering, Durban University of Technology, Pietermaritzburg, RSA

Lungisile Hlophe, Department of Construction Management and Quantity Surveying, Mangosuthu University of Technology, Durban, RSA

ID 235 An Exploratory Study of Material Handling Systems Design and Analysis

Ahmed Gabr, Faculty of Engineering, German International University, Egypt

Amr Nounou, Faculty of Engineering, German International University, Egypt

3:30 – 5:30 pm, TUESDAY

Onsite Room 4

Session Chair: Simone Kubowitsch, Technical University of Applied Sciences Augsburg, Germany

Business Management and Operations Management

ID 119 Assessment of Factors Responsible for the Failure of Municipal Projects: A Case Study of a South African Municipality

Kedumetsi Lerato Piitso, Department of Quality and Operations Management, University of Johannesburg, Pretoria, South Africa

Dr. Emmanuel Edoun, Research Supervisor, University of Johannesburg, Johannesburg, South Africa

Dr. Nelson Mandonsela, Research Co-Supervisor, University of Johannesburg, Johannesburg, South Africa

ID 160 Breaking Through Limits: Exploring Factors Hampering Growth in Zambia's Capital Markets-Lusaka Securities Exchange Perspective

Janet Mapenzi Shamalime, Graduate School of Business, University of Zambia, Zambia

Romeo Yohane, Graduate School of Business, University of Zambia, Zambia

ID 111 Effects of Circular Economy on Production and Underlying Information Systems

Arne Mayer, Faculty of Computer Science, Technical University of Applied Sciences Augsburg, 86161 Augsburg, Bavaria, Germany

Marcel Ófele and Stefan Braunreuther, Center for Production Technology, Faculty of Mechanical and Process Engineering, Technical University of Applied Sciences Augsburg, 86161 Augsburg, Bavaria, Germany

ID 115 ISM Modeling of Strategic Human Resource Management Practices for Successful Implementation of TQM in an Organization

Sumit Kumar, Assistant Professor, Department of Mechanical Engineering, Sant Longowal Institute of Engineering and Technology, Sangrur, Punjab Indian

Pardeep Gupta, Professor, Department of Mechanical Engineering, Sant Longowal Institute of Engineering and Technology, Sangrur, Punjab Indian

ID 136 Modelling the Relationships Between Supply Chain Strategies, Competitive Priorities and Organizational Performance

Joshua Ofori-Amanfo, Enoch Koranteng Amoasi and Florence Newman, Senior Lecturer | MPhil Graduates, Department of Operations and Management Information Systems, University of Ghana Business School, P.O. Box LG 78, Legon, Accra, Ghana

ID 126 Process Improvement at 2M Stands: Standardization of Modular Components to Reduce Total Cost

Filipe Mingorance Lombardi, Gustavo Araujo Garcia and Pedro Vieira Braga, Production Engineers, Graduate Program in Production Engineering Engineering School Mackenzie Presbyterian University (MACKENZIE), São Paulo, SP, Brazil

Ana Maria Saut, Post-doctoral Researcher, Department of Production Engineer, Polytechnic School of the University of São Paulo University (USP) São Paulo, SP, Brazil

Orlando Yesid Esparza Albarracin and Silmara Alexandra da Silva Vicente, Researchers Professors, Graduate Program in Production Engineering Engineering School Mackenzie Presbyterian University (MACKENZIE), São Paulo, SP, Brazil

ID 142 The Perceived Prospects and Barriers of Integrating Artificial Intelligence with Activity-Based Costing in Logistics Firms: A Study in Jordan

Bassam Maali German Jordanian University Jordan

ID 116 The Importance of Stakeholder Satisfaction in Implementing Municipal Projects

Kedumetsi Lerato Piitso, Department of Quality and Operations Management, University of Johannesburg, Pretoria, South Africa

Dr. Emmanuel Edoun, Research Supervisor, University of Johannesburg, Johannesburg, South Africa

Dr. Nelson Mandonsela, Research Co-Supervisor, University of Johannesburg, Johannesburg, South Africa

ID 71 The Influence of Country of Origin on Purchase Intention of Personal-Care Products

Supara Kapasuwan, Assistant Professor, Business Administration Division, Mahidol University International College, Mahidol University, Nakhon Pathom, Thailand

Thanyaporn Kanchanawatee, Master of Business Administration Graduate, Mahidol University International College, Mahidol University, Nakhon Pathom, Thailand

Dolchai La-ornual, Assistant Professor, Business Administration Division, Mahidol University International College, Mahidol University, Nakhon Pathom, Thailand

3:30 – 5:30 pm, TUESDAY, July 16**Zoom Room 5**

Session Chair: Dr. mont. Helmut Wieser – Faculty of Mechanical and Process Engineering, Technical University of Applied Science Augsburg, Augsburg, Bavaria, Germany

Engineering Management and Project Management

ID 213 A Group Decision-Making Approach for Reviewer Selection: Case Study in Project Evaluation

Meltem Aksoy, Research Center Trustworthy Data Science and Security of the University Alliance Ruhr, Faculty of Informatics, Technical University of Dortmund, Germany

ID 177 Drivers of Compartmentalization for Fire Safety in High-Rise Buildings

Lungisile Siso Hlophe, Mangosuthu University of Technology, South Africa
Department of Construction Management and Quantity Surveying, South Africa

ID 62 Efficiency in Waste Management: Project Management Techniques and Economic Analysis of a GIS-Based System Implementation in the City of Bisha, Kingdom of Saudi Arabia

Ghadah M Khushail, Ghaida Fahad Alqarni, Refan M Alshahrani and Reema M Almotawa, Undergraduate Student in Industrial Engineering Department, College of Engineering, University of Bisha (at time of research), Bisha 61922, Saudi Arabia
Khaled Ali Abuhasel, Full Professor in Industrial Engineering Department, College of Engineering, University of Bisha, Bisha 61922, Saudi Arabia

ID 229 Improvement proposal based on Lean warehousing and ABC to increase the service level in a distribution company

Luigi Arturo Rodriguez Otiniano and Mauricio Joaquin Salazar Vera, Faculty of Engineering, University of Lima, Peru
Martin Fidel Collao-Diaz, Research Professor, Faculty of Engineering, University of Lima, Peru

ID 224 Management Model for Productivity Improvement in the Craft Beer Production Process through the Application of Demand Planning Techniques, EOQ and MRP

Jimena Negrón Aching and Giovanna Portocarrero Dávila, Facultad de Ingeniería, Carrera de Ingeniería Industrial, Universidad de Lima, Lima Perú
Carlos-Augusto Lizárraga-Portugal, Research Professor, Facultad de Ingeniería, Carrera de Ingeniería Industrial, Universidad de Lima, Lima Perú

ID 87 The impact of the measuring scale on research outcomes

Edoghogho Ogbefun, Civil Engineering Department, Faculty of Engineering, 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

July 17, 2024 (Wednesday)

July 17, 2024 (Wednesday) – Session: 8:00 – 9:00 am

8:00 – 9:00 am, WEDNESDAY, July 17**Onsite Room 1**

Session Chair: Rohit Gupta, Indian Institute of Management Sambalpur, India

Case Studies and Best Practices

ID 3 Evaluating AI-based Automatic Replenishment for Medical Devices in Vendor Managed Inventory

Nai-Chuan Fang, Taichung Veterans General Hospital, Taiwan

ID 170 Investigate the Defects and Risk Optimization Related to the Various Casting Process

Md. Golam Kader, Arup Kumar Debnath and Md. Abdul Ohab, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh
G M Mahfuzur Rahman, Superintendent Engineer, Khulna University of Engineering & Technology, Khulna, Bangladesh

ID 226 Fields of Action in the Continuous and Early Validation of Product Profiles in Product Engineering

Stefan Eric Schwarz, Carsten Thümmel, Maximilian Kuebler, Benjamin Doostkam and Albert Albers, IPEK – Institute of Product Engineering Karlsruhe Institute of Technology (KIT), 76131 Karlsruhe, Germany

ID 47 Ergonomic value stream map approach for productivity enhancement in Ductile Iron Pipe Industry

Rohit Gupta, Indian Institute of Management Sambalpur, India

8:00 – 9:00 am, WEDNESDAY, July 17**Onsite Room 2**

Session Chair: Florian Kerber, Technical University of Applied Sciences Augsburg

Automation, Robotics and Autonomous Systems

ID 133 Collision Avoidance and Fault Diagnosis Controller in autonomous vehicles Based on Petri net models

Djamila DAHAK, Computer Science department, Annaba University, Annaba- B.P.12, 23000, Algeria
KOURD Yahia, Department of Electrical engineering, Souk-ahras University, Souk Ahras, 41000, Algeria

ID 38 Driving Improvement and Business Progression Utilizing New Product Development Approach: A Comprehensive Empirical Study

Pardeep Gupta, Department of Mechanical Engineering, Sant Longowal Institute of Engineering and Technology, Longowal, Sangrur (Punjab), India
Niharika Gupta, Rober H. Smith Business School, University of Maryland, USA

ID 42 Emotional Intelligence and SMEs' performance in the Accra Metropolis, Ghana

Regina Appiah Gyimah, Lecturer, Department of Marketing, Accra Technical University, Accra, Ghana

ID 55 Food determinants of low-income children school dropout in India

Bitu Afsharina, Indian Institute of Science, Bangalore, India

ID 40 The Role of Internet Celebrity Endorsement on Consumers' Brand Perception and Online Purchase Intention

Hui-Ling Huang, Department of Business Administration, Chang-Jung Christian University, Tainan City, Taiwan
Dong Dong Thao, Graduate Program in Department of Business Administration, I-Shou University, Kaohsiung City, Taiwan

8:00 – 9:00 am, WEDNESDAY, July 17

Onsite Room 3

Session Chair: Jiri Tupa, University of West Bohemia, Czech Republic

Lean Six Sigma Competition sponsored by Tooling Tech Group

ID 2 Performance Analysis of Footwear Manufacturing Assembly Line Using Value Stream Mapping-Simulation Modeling

Hiluf Reda, Assistant Professor, Department of Industrial Engineering, Debre Berhan University, Debre Berhan, Ethiopia

ID 193 Six Sigma in Revolutionising and Improving Revenue Collection; Case of Hare Polytechnic in Zimbabwe

Wilson Takavadi Nyamanhindi, Head of School of Office Management, Harare Polytechnic, Zimbabwe
Dorcas Mutizhe, Accounting Assistant, Harare Polytechnic, Zimbabwe

ID 51 Improving drop-servicing in SME's through business process reengineering: a lean Six Sigma approach

Nyiko Matjokana, Majox Inc., United Kingdom

8:00 – 9:00 am, WEDNESDAY, July 17

Onsite Room 4

Session Chair: Prof. Dr. Wolfgang Kratsch - Technical University of Applied Sciences Augsburg

Artificial Intelligence and Data Science

ID 85 Integration of Large Language Models for Real-Time Troubleshooting in Industrial Environments based on Retrieval-Augmented Generation (RAG)

Ali Narimani, Department of Advanced Industrial Engineering, Valeo Sensors and Switches, 86650 Wemding, Germany
Steffen Klarmann, Advanced Industrial Director, Valeo Sensors and Switches, 86650 Wemding, Germany

ID 169 Intelligent Route Selection for Optimizing Transportation Networks

Amar Partap Singh Phrawaha, Department of Electronics and Communication Engineering, Sant Longowal Institute of Engineering and Technology (SLIET), Longowal-148106, Sangrur, Punjab, India
Baljit Singh Khehra, School of Sciences & Emerging Technologies, Jagat Guru Nanak Dev Punjab State Open University, Patiala, Punjab, India
Jagtar Singh Sivia, Yadavindra Department of Engineering, Punjabi University GKC, Talwadi Sabo, Bathinda, Punjab India

ID 147 Late payments collection optimization

Ekrem Duman, Ozyegin University, Turkey

ID 43 Macro-level manpower planning with time-window

Ma, Nang Laik, Associate Professor, School of Business, Singapore University of Social Sciences, 461 Clementi Road, Singapore

ID 162 Meta-Evaluation: Adapting Evaluation for the AI-Driven Future and Ensuring Quality Practice

Michael Osei, Western Michigan University, United States

ID 104 Selection and Validation of AI Models for Detecting Thermomechanical Stresses in Float Glass Using Historical Sensor Recordings

Tom Röger and Johannes Schilp, Chair of Production Informatics, University Augsburg, 86159 Augsburg, Germany
Thomas Kraus, OTH Regensburg, Regensburg, Germany

8:00 – 9:00 am, WEDNESDAY, July 17

Zoom Room 5

Session Chair: Saed Amer, Khalifa University of Science and Technology, United Arab Emirates

Zoom Host: Aqib Islam, IEOM Society

Manufacturing, Assembly and Design

ID 145 Analysis of the increase in the production capacity of a manufacturing company through the Kaizen methodology

María de los Ángeles Martínez-Mercado, Azucena Minerva García-León, Elva Patricia Puente-Aguilar and Nury Margarita Leal-Rendón, School of Chemical Science, Professors of Industrial Engineering and Management, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, Nuevo León, México

ID 153 TOPSIS Method for Selection of the Best Stent Material for Damaged Blood Vessels

Mohammed A. Almomani and Abd Al-Azeez M. Melhem, Industrial Engineering Department, Jordan University of Science and Technology, P.O. Box 3030, Irbid 2211, Jordan

Quality, Reliability and Maintenance

ID 77 Cannibalism Asset Management and Its Impact on Business Performance: A Systematic Literature Review

B.B.S Makhanya, J.H.C Pretorius and H. Nel, Faculty of Engineering and Built Environment, University of Johannesburg, Johannesburg, Gauteng, South Africa

ID 209 Innovative Approaches to Knowledge Management: The Role of Novices in Knowledge-Intensive Maintenance Environments

Hamid Roham and Jorge F.S. Gomes, Lisbon School of Economics and Management, University of Lisbon, Portugal

ID 261 Lean Thinking in Operational Excellence

Ragunandan Gurumurthy, Crossover Solutions USA Inc., United States

ID 256 Machine Learning Approach for the Prediction of Pandemic-induced Medical Waste in the United Arab Emirates: COVID-19 Case Study

Reem Belal Irshaid, Noora Mohamed Abdulla Zayed, Mariam Eisa Mohamed Ismaeel Alhosani, Alia Saeed Mohammed Shareef Alkhoori, Mira Omar Mohamed Hassan Abdulla, and Saed T. Amer, Health, Safety and Environment Engineering, Department of Management Science and Engineering, Khalifa University, Abu Dhabi, United Arab Emirates

July 17, 2024 (Wednesday) – Session: 9:00 am – 12:00 pm

Keynote Speakers

9:00 – 9:40 am

Keynote V:

Dr. Max Dinkelmann

Senior Inhouse Consultant, TRUMPF Laser- und Systemtechnik GmbH

ID 100 Maturity Steps towards a Digitally Integrated Shop Floor Management

9:40 – 10:20 am

Keynote VI:

Klaus Spindler, Director of Artificial Intelligence, Forvia

10:20 - 10:40 am

Networking Break

10:40 - 11:20 am

Keynote VII:

**Felix Georg Müller, CEO and Co-Founder, Plus10 GmbH
Augsburg, Bavaria, Germany**

11:20 am - 12:00 pm

Keynote VIII:

Dr. Semir Maslo, Head of Product Management

Big Data in Manufacturing GmbH, Germany

12:00 - 1:30 pm
Buffet Lunch at University Cafeteria

July 17, 2024 (Wednesday) – Session: 1:30 – 3:15 pm

1:30 – 3:15, WEDNESDAY, July 17

Onsite Room 1

AI in Manufacturing Panel

Wednesday, July 17, 2024, 1:20 – 3:30 pm (Onsite Room 1)
Panel Chair: Jürgen Lenz

Panel Chair:

Dr.-Ing. Jürgen H. Lenz
Faculty of Mechanical and Process Engineering
Technical University of Applied Science Augsburg
Augsburg, Bavaria, Germany

Panelists

Felix Georg Müller
CEO and Co-Founder
Plus10 GmbH
Augsburg, Bavaria, Germany

Klaus Spindler
Director of Artificial Intelligence
Forvia
Munich, Germany

Dr. Semir Maslo
Head of Product Management
Big Data in Manufacturing GmbH
Germany

1:30 – 3:15, WEDNESDAY, July 17

Onsite Room 2

Toyota Kata and Emotional Intelligence Workshop

By Mr. Dave Harry and Dr. Tony Prensca

DAVE HARRY
Retired U.S. Naval Aviator
CEO of Process Whisperer® Consultants LLC, Greeneville, Tennessee, USA
ASQ certified Six Sigma Black Belt and A PMI certified PMP®

Dr. Tony Prensa, PhD, MBA, PMP, CB-PMO, CCP, ITIL, 6σ
 Chief Executive Officer & Founder
 TP Global Business Consulting, LLC
 Orlando, Florida, USA

1:30 – 3:15, WEDNESDAY, July 17

Onsite Room 3

Session Chair: Nannan Wang, IESEG School of Management, France

Supply Chain and Logistics

ID 117 Improving the Performance of an E-tailing Industry Using Data-Mining Tools

Parastoo Heidarifara, Ph.D. Candidate of Industrial Engineering, A School of Industrial Engineering, College of Engineering, University of Tehran
 Tehran, Iran

Mohammad Mahdi Nasiria, Fariborz Jolaia and Matineh Ziaria, A School of Industrial Engineering, College of Engineering, University of Tehran
 Tehran, Iran

ID 171 Leveraging Computer Vision to Enable Synchronodal Transportation in Shipping Ports

Ameera Jaber Al Shahwani, Brenno C. Menezes and Mohammed Yaqot, College of Science and Engineering, Hamad Bin Khalifa University Doha,
 Qatar Foundation, Doha, Qatar

ID 94 Leveraging Enterprise Resource Planning (ERP) Systems for Productivity Enhancement in Small-Medium Pharmaceutical Enterprises

John K. Buor, Lecturer, University of Ghana, Legon, Accra, Ghana

Enock Selasi Darteh, Quality Assurance Supervisor, DAS Pharma PLC, Accra, Ghana

ID 112 Multi Objective Optimization Approach for Additive Manufacturing Enabled Spare Parts Supply Chain: A MILP model for Minimization of Cost and Carbon Emissions

Muhammad Fahad Sheikh and Dr. Laoucine Kerbache, Division of Logistics and Supply Chain Management, College of Science and Engineering
 Hamad bin Khalifa University, Qatar

ID 90 Multi-location Inventory Management under Time-varying Demands: A Deep Reinforcement Learning Approach

Jinsheng Chen, Scientist, Advanced Remanufacturing and Technology Centre (ARTC), Agency for Science, Technology and Research (A*STAR)
 Singapore, 637143, Republic of Singapore

ID 149 Multi-product Capacitated Lotsizing and Scheduling Problem with Supplier Selection and Carrier Selection Considering Carbon Emission

Mehdi Bijari, Professor, Department of Industrial and Systems Engineering, Isfahan University of Technology, Isfahan, Iran

Maedeh Sharbaf, Ph.D. Student, Department of Logistics and Operations Management, HEC Montereal, Montereal, Canada

ID 97 Sharing the Gains of Collaboration

Jaideep T. Naidu, Associate Professor, School of Business, Thomas Jefferson University, Philadelphia, PA, United States

ID 187 The role of fixed costs in supply chains

Moshe Eben-Chaime, Department of Industrial Engineering & Management, Ben Gurion University of the Negev, Israel

ID 222 Used products reuse or material recovery? Interactions between OEMs and TPRs under environmental regulations

Nannan WANG, IESEG School of Management, Univ. Lille, CNRS, UMR 9221 - LEM – Lille Economie Management, F-59000 Lille, France

Linda L. ZHANG, IESEG School of Management, Univ. Lille, CNRS, UMR 9221 - LEM – Lille Economie Management, F-59000 Lille, France

1:30 – 3:15, WEDNESDAY, July 17

Onsite Room 4

Session Chair: Christoph Legat, Technical University of Applied Sciences Augsburg, Germany

Artificial Intelligence and Data Science

ID 255 Machine Learning in Higher Education: Predicting and Mitigating Student Dropout at Ajman University

Sana Abouelnour, Aneesa Al Redhaei and Mohammed Azmi Al-Betar, Artificial Intelligence Research Center, College of Engineering and
 Information Technology, Ajman University, Ajman, UAE

ID 259 Real Estate Market Analysis: Visualizing and Analyzing Market Trends

Sana Abouelnour, Mueen Almasre and Ghazi Alnaymat, Artificial Intelligence Research Center, College of Engineering and Information Technology
 Ajman University, Ajman, UAE

ID 247 Leveraging Technology in Construction: A Case Study of a Residential Project in Lisbon

Nasrah Alarayedh and Ana Lúcia Martins, Iscte - Instituto Universitário de Lisboa (ISCTE-IUL), Business Research Unit (BRU-IUL), Lisbon, Portugal

Manufacturing, Assembly and Design

ID 242 Application-specific Injector Geometry for Dual Alloy Casting

David Rottenegger and Stefan Braunreuther, Center for Production Technology, Faculty of Mechanical and Process Engineering, Technical University of Applied Sciences Augsburg, Augsburg, Bavaria, Germany

ID 249 Some Dominance Conditions for the Tardiness Problem

Jaideep T. Naidu, Associate Professor, School of Business, Thomas Jefferson University, Philadelphia, PA, United States

1:30 – 3:15, WEDNESDAY, July 17

Zoom Room 5

Session Chairs: Patrick Brecht, Karlsruhe University of Applied Sciences, Germany

Sustainability, Green Systems and Energy

ID 45 Analysis of the Barriers for Implementing Sustainable Cellular Manufacturing in the Readymade Garments Industries: A Case Study in Bangladesh Perspective

Ahnaf Tahmida and Md Masud Reza Rasela, A Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 120 Framework for Regional Tourism Sustainability and Evaluation by Using Fuzzy Logic: Case Study on Aseer Province

Masha'el N. Alsubaie, Monira M. Alqahtani, Haya M. Alqahtani, Ghadeer K. Alhajri and Fay F. Alshahrani, Undergraduate Student in Mechanical Engineering, Department-Industrial Engineering Program, College of Engineering, University of Bisha, Bisha 61922, Saudi Arabia
Mohammed Alquraish, Associate Professor in Mechanical Engineering, Department-Industrial Engineering Program, College of Engineering, University of Bisha, Bisha 61922, Saudi Arabia

ID 98 Life Cycle Sustainability Assessment of Deep Injection Well Systems for Wastewater Disposal

Gamaleldin Farag, Master Student, Department of Mechanical & Industrial Engineering, College of Engineering, Qatar University, Doha, Qatar
Dr. Kadir Ertogral, Associate Professor, Department of Mechanical & Industrial Engineering, College of Engineering, Qatar University, Doha, Qatar
Murat Kucukvar, Professor of Sustainable Business, Daniels College of Business, University of Denver, USA

ID 200 Tokenization as the Driver for the Transition to Green Energy Systems: A Bibliometric Analysis and Perspectives of Technology Providers, Financial Institutions, and Energy Industry Experts

Marion Bohr, Pascal Goschnick, Patrick Brecht and Carsten Hahn, Institute of Applied Research (IDEV), Karlsruhe University of Applied Sciences Karlsruhe, Germany

ID 233 Characteristics and Challenges of Smart Grids

Dr. Moses Jeremiah and Barasa Kabeyi, Department of mechanical and manufacturing Engineering, University of Nairobi, Kenya

ID 234 Development of a Plastic Oil Pyrolysis Plant for The Kenyan Market

Dr. Moses Jeremiah and Barasa Kabeyi, Department of mechanical and manufacturing Engineering, University of Nairobi, Kenya
Steven Juma Wanjala, Department of mechanical and manufacturing Engineering, University of Nairobi, Kenya

ID 248 Towards a More Sustainable Production Planning and Control

Marcel Öfele and Stefan Braunreuther, Center for Production Technology, Faculty of Mechanical and Process Engineering, Technical University of Applied Sciences Augsburg, Augsburg, Bavaria, Germany

ID 253 Carbon Pricing Risk of AI Based Mining Supply Chain in Indonesia

Dina Nurul Fitriah, Member of Board the National Energy Council of Republic of Indonesia, Risk Management Lecturer at Trilogi University, Indonesia
Anang Dwiartmoko, Legal Analyst at Ministry of Energy and Mineral Resources Republic of Indonesia, Indonesia
M. Halim Sariwardana, Doctoral Candidate in Law, at Muhammadiyah Surakarta University, Indonesia

July 17, 2024 (Wednesday) – Session: 3:30 – 5:30 pm

3:30 – 5:30 pm, WEDNESDAY, July 17

Onsite Room 1

Session Chair: Neven Majic, Technical University of Applied Sciences Augsburg, Germany

Simulation, Optimization and Productivity Improvement

ID 220 Manufacturing Facility Simulation Using Tecnomatix PLM by Siemens

Abbas Jamal, Abdullah Mallah and Mahmoud AlShatti, Student, American College of the Middle East, Eqaila, Kuwait
Imad Amine, Head of Industrial Engineering Technology Program, American College of the Middle East, American University of the Middle East Eqaila, Kuwait

ID 131 Approximating Markov Chains via Weak Perturbation Theory

Badredine Issaadi, Laboratoire LITAN, Ecole Supérieure en Sciences et Technologie de l'Informatique et du Numérique, RN 75, Amizour 06300, Bejaia, Algérie

ID 143 Conception of Process Improvements using Coarse System Dynamics Models

Julio Macedo, Institut Strategies Industrielles Montreal (QC), H3H1R6, Canada

ID 101 Examining Maintenance Efficiency and its Determinants in Indian Public Bus Companies: A DEA Approach

Shivam Kushwaha, Assistant Professor, POM & QT Area, Institute of Rural Management Anand (IRMA), Anand, India

ID 80 Modeling and Investigation of the Effects of Doping-Induced Strain on Boron Diffusion in Thin Film Silicon Solar Cells

Abderrazzak El Boukili, Associate Professor of Applied Mathematics, Al Akhawayn University, Ifrane, Morocco

ID 189 Optimization of Thermal Performance in Different Perforated Pin Fins Using ANSYS

Md. Golam Kader, Arup Kumar Debnath and Md. Rokibul Hasan Jony, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh

ID 56 Performance analysis of Indian Libraries: A MCDM approach

Bhawana Rathore, Indian Institute of Management, Sambalpur, India

ID 205 Pharmaceutical Inventory Management Using Industry 4.0 Technologies Based on Collaborative Demand: A System Dynamics Approach

Nicanor A. Contreras and William Guerrero, Doctoral Student, Business Process Architect and Director Doctorate in Logistics, La Sabana University Chía, Cundinamarca, Colombia

Maria Besiou, Dean of Research and Professor of Humanitarian Logistics, Kühne Logistics University – KLU, Hamburg, Germany

ID 207 Study on the Aerodynamic Effects of SD7032 Aerofoil as Adjustable Front Wings of a Formula Student Car

Jowad Md Madha, Anika Nawar, Md Mizanur Rahman and Naheen Ibn Akbar, Department of Mechatronics Engineering, Faculty of Science and Engineering, World University of Bangladesh, Dhaka, Bangladesh

3:30 – 5:30 pm, WEDNESDAY, July 17**Onsite Room 2****Toyota Kata and Emotional Intelligence Workshop**

By Mr. Dave Harry and Dr. Tony Prensa

DAVE HARRY

Retired U.S. Naval Aviator

CEO of Process Whisperer® Consultants LLC, Greeneville, Tennessee, USA

ASQ certified Six Sigma Black Belt and A PMI certified PMP®

Dr. Tony Prensa, PhD, MBA, PMP, CB-PMO, CCP, ITIL, 6σ

Chief Executive Officer & Founder

TP Global Business Consulting, LLC

Orlando, Florida, USA

3:30 – 5:30 pm, WEDNESDAY, July 17**Onsite Room 3**

Session Chair: Liliana Rivera, Universidad de Los Andes, Bogota, Colombia

Sustainability, Green Systems and Energy**ID 52 Enhancing Product Quality Using Six Sigma Concepts to Multi-Objective Production Planning**

Mohammed Alqahtani and Teg Alam, Industrial Engineering Department, College of Engineering, Prince Sattam Bin Abdulaziz University Al-Kharj 11942, Saudi Arabia

ID 48 Enhancing Societal Welfare Through Effective Management of Agri-Food Supply Chain Operations: The Colombian case

Liliana Rivera, Assistant Professor, Universidad de Los Andes, Bogotá, Colombia

ID 144 Environmental Sustainability of Wheat Production system in Northern India: A Cradle to Gate Analysis

Rohit Kumar, Arvind Bhardwaj, Lakhwinder Pal Singh and Gurraj Singh, Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab, India

ID 108 Integrating Life Cycle Sustainability Assessment and Multi-Criteria Decision-Making for Sustainable Transit Bus Fleet Optimization

Noura Elagouz, Nuri Onat and Mohamed Kharbeche, Qatar Transportation and Traffic Safety Center College of Engineering, Qatar University, Doha, Qatar

Murat Kucukvar, University of Denver, College of Business, Colorado, CO 80210, USA

ID 203 Integrating Sustainability, Green Systems, and Energy Efficiency in the Banking Sector: Strategies, Benefits, and Policy Recommendations

Afrakumah Dapaah, Omnibsic Ghana LTD., Ghana

ID 124 Kinetic Study of Mineralization during Electrochemical Oxidation of Lamotrigine

Vinod Kumar Meena, Assistant Professor, Department of Chemical Engineering, Sant Longowal Institute of Engineering and Technology, Longowal, Sangrur, Punjab 148106, India
Himadri Roy Ghatak, Professor, Department of Chemical Engineering, Sant Longowal Institute of Engineering and Technology, Longowal, Sangrur, Punjab 148106, India

ID 208 Location Analysis for Primary Healthcare Centers in Doha City Using a Multi Objective Optimization Model with Sustainability Perspective

Ahmed Al-Mashhadani and Kadir Ertogral, Department of Mechanical and Industrial Engineering, Qatar University, Doha, Qatar

ID 106 Navigating Sustainable Resource Efficiency: An Examination of Sustainable Practices Interaction through Fuzzy-set Qualitative Comparative Analysis among SMEs

Abeeku Sam Edu, Researcher, University of Ghana Business School, Legon, Accra, Ghana

ID 91 Relative Efficiency Analysis for Solar Plant Location Using Data Envelopment Analysis Technique

Jettarat Janmontree, Lecturer, Otto-von-Guericke University Magdeburg, Magdeburg, Germany
Hartmut Zadek, Professor, Otto-von-Guericke University Magdeburg, Magdeburg, Germany
Kasin Ransikarbum, Associate Professor, Ubonratchathani University, Ubonratchathani, Thailand

3:30 – 5:30 pm, WEDNESDAY, July 17

Onsite Room 4

Session Chair: Alexander Schönmann - Technische Hochschule Ingolstadt

Engineering Management and Project Management

ID 58 A Framework for Effectively Managing Scope on Service Contracts in the Mining Industry

Leren Valjee, Paul Bester and Jan-Harm C. Pretorius, Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 172 A Review of the Major Factors of Cost Overrun in Construction Projects

Dr. Awsan Mohammed, Research Professor, King Fahd University of Petroleum and Minerals (KFUPM), Dharan, Saudi Arabia
Hassan Abdelgadir, Architectural Engineering and Construction Management Department, King Fahd University of Petroleum and Minerals Dhahran, EKPA7024, Saudi Arabia

ID 148 Human Super listening and Manufacturing AI Dependence

Yasar Ajlouni, Self, Saudi Arabia

ID 29 Industrial Engineering and Operations Management

Clemence Fuma, Harare Polytechnic, Zimbabwe

ID 159 Methods for Product Planning and Validation for a Modularized Software-Defined Car Concept

Carsten Thümmel, Rüdiger Fehrenbacher, Stefan Eric Schwarz, Maximilian Kuebler, Katharina Bause and Albert Albers, Institute of Product Engineering (IPEK), Karlsruhe Institute of Technology (KIT), 76131 Karlsruhe, Germany

ID 217 Navigating Organizational Change: Understanding Resistance and Harnessing Technology for Transformational Success: A systematic Review

Ryan Alshaikh and Asraa Al-Khafaf, Engineering Systems and Management PhD program, College of Engineering, American University of Sharjah, Sharjah, UAE
Vian Ahmed, Department of Industrial Engineering, American University of Sharjah, Sharjah, UAE

ID 184 Optimizing Urban Traffic Flow: A Project Management and Economic Analysis of Reducing Carbon Footprint through Innovative Traffic Signal Optimization Strategies - A Case Study in Bisha, Kingdom of Saudi Arabia

Maha N Alshehri, Hadeel A Alshahrani, Maali Sh Alshahrani, Sheikha M Alshehri and Abeer H Alaklobi, Undergraduate Student in Mechanical Engineering, Department-Industrial Engineering Program, College of Engineering, University of Bisha, Bisha 61922, Saudi Arabia
Khaled Ali Abuhasel, Full Professor in Mechanical Engineering, Department-Industrial Engineering Program, College of Engineering, University of Bisha, Bisha 61922, Saudi Arabia

ID 60 Utilization of Gamification to Motivate the Adoption of Simulation Services In An Insurance Company, A Case Study

Neil Stander, Leon Pretorius and Jan-Harm C. Pretorius, Postgraduate School of Engineering Management, University of Johannesburg, South Africa

3:30 – 5:30 pm, WEDNESDAY, July 17

Zoom Room 5

Session Chair: Murat Yagan, University of West Bohemia, Czech Republic

Artificial Intelligence and Data Science

ID 168 Ethical AI Frameworks: Balancing Privacy, Consent, and Responsible Use

Tawanda Kapuya, Walter Kubiku, Mqamlandaba Dube, Tafadzwa Mukudu, Mind Kutyauro, Belinda Ndlovu and Sibusisiwe Dube, Department of Informatics and Analytics, National University of Science and Technology, Bulawayo, Zimbabwe

ID 185 Exploring the Transformative Effects of Artificial Intelligence and its Impact on Educational Practices

Kghanya Ndlovu, Lawrence Mkwebu, Rukudzo Ndlovu and Samson Chivunga, Master of Science Information Systems, National University of Science and Technology, Bulawayo, Zimbabwe

ID 72 Towards Enhancing Educational Sustainability in Higher Education institutions Through leveraging Artificial Intelligence: A Systematic Literature Review

Maybin Dzikiti, Akim Nyoni, Brian Ncube, Mthandazo Ncube, Musa Selome, Sibusisiwe Dube and Belinda Mutunhu Ndlovu, Department of Informatics, National University of Science and Technology, P O Box AC 939, Ascot, Bulawayo, Zimbabwe

ID 50 The Effect of Data Quality on Decision-Making A Quasi-Experimental Study

Afnan Alabduljabbar, College of Computer and Information Sciences, Department of Information Systems, Imam Mohammad bin Saud Islamic University, Riyadh, Saudi Arabia

ID 114 AI-Based Resilient Manufacturing and Supply Chain

Md Irshan, Industrial and Production Engineer, Working as Solution Consultant – TE connectivity India Pvt LTD., India

ID 93 A Systematic Review of the Implementation of IT and OT Cybersecurity Standards in an IT/OT Converged Environment

Thobeka Sishuba, Ph.D. student in Quality & Operations Management, University of Johannesburg, South Africa
Dr. Emmanuel Innocents Edoun and Professor Anup Pradhan, Quality & Operations Management, Engineering and the Built Environment University of Johannesburg, South Africa

ID 152 The Application of AI for the Modelling and Optimisation of Technological Processes

Murat Yagan, PhD Student, University of West Bohemia, Pilsen, Czech Republic
Doc. Ing. Jiří Tupa, Ph.D., Vice-Dean for Faculty Strategy and Development, University of West Bohemia, Pilsen, Czech Republic

July 18, 2024 (Thursday)

July 18, 2024 (Thursday) – Session: 8:00 – 9:00 am

8:00 – 9:00 am, THURSDAY, July 18

Onsite Room 1

Session Chair: Vigneshkumar Chellappa, The Hong Kong Polytechnic University, Hong Kong

Engineering Education and Curriculum Improvement

ID 141 Development of A Computer Aided Learning Tool for Pic18f4550 Microcontroller

Mainur Rahman Tarafder, Ex Post Graduate Student, IICT, BUET, Dhaka

ID 8 Integrating Trust into TAM to Examine Consumers' Behavior Intention toward Driverless Cars

Yue-Yang Chen, Department of Business Administration, I-Shou University, Kaohsiung City, Taiwan
Xin-Xin Zhu, Graduate Program in Department of Business Administration, I-Shou University, Kaohsiung City, Taiwan

ID 127 Virtual Reality (VR) User Interfaces: Guidelines for Human Factors and Ergonomic Design

Zainab Khan, Amity School of Design, Amity University, Noida, India
Vigneshkumar Chellappa, School of Design, The Hong Kong Polytechnic University, Kowloon, Hong Kong
Grzegorz Ginda, Department of Strategic Management, AGH University of Science and Technology, Krakow, Poland

8:00 – 9:00 am, THURSDAY, July 18

Onsite Room 2

Session Chair: Deoraj Prajapati, Punjab Engineering College (Deemed to be University) Chandigarh, India

Human Factors and Ergonomics Competition sponsored by CINTAS

ID 109 The Potential of Integrated Workload Measures in Production

Simone Kubowitsch, School of Business, Technical University of Applied Sciences Augsburg, Augsburg, Bavaria, Germany
Peter Cocron, Faculty of Liberal Arts and Sciences, Technical University of Applied Sciences Augsburg, Augsburg, Bavaria, Germany

ID 16 Effect of technological changes on buyer-supplier dynamics for the manufacturing firms in the context of Industry 4.0

Devinder Kumar, Prof. Rajesh Kumar Singh and Prof. Ruchi Mishra, Management Development Institute (MDI) Gurgaon, India

ID 212 Human Reliability Analysis for Multi-Unit Small Modular Reactors: Challenges and Insights

Ibrahim A. Alrammah, Research, Development and Innovation Authority, Riyadh, Saudi Arabia

ID 39 Monitoring and Diagnostic Applications of Thermography in Predictive Maintenance

Mohammed Mesrara, Hamza El Malki, H. Mesrar and A. Boukili, Signals, Systems and Components Laboratory (LSSC), Faculty of Sciences and Technologies of Fez, Sidi Mohamed Ben Abdellah University, B.P. 2022, Fez, Morocco

ID 150 The Voice of the Patient: Exploring How VOC and CTQ Enhance Healthcare Service Quality

Michael Osei, MBA (TQM), Michael Harnar, Ph.D., Akorfa Wuttor DBA and Michelle Rincones-Rodríguez B.S., Organisational and Social Psychology, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, United Kingdom

ID 35 Unlocking the SME Advantage: Prioritising Optimisation Before Automation for Small-Scale Manufacturers

Joshua Denning and Kapila Liyanage, College of Science of Engineering, University of Derby, United Kingdom

8:00 – 9:00 am, THURSDAY, July 18**Onsite Room 3**

Session Chair: Prof. Dr. Dominik Lucke - Reutlingen University

Quality, Reliability and Maintenance

ID 12 Construction of a Reliability Acceptance Sampling Plan under Accelerated Times-to-Failure Data

To-Cheng Wang, Yu-Chen Liu and Zhang-Kai Huang, Associate Professor, Department of Aviation Management, Republic of China Air Force Academy, Kaohsiung, Taiwan

ID 54 Digital Twinning of Manufacturing Systems based on the Finite State Method

Ložar Viktor, Hadžić Neven and Opetuk Tihomir, University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Ivana Lučića 5, 10000 Zagreb, Croatia

ID 49 Identifying the TQM Strategies Applied in the Financial Services sector. A Case of the Major Banks in South Africa

Teboho Caswell Chomane, Andre Vermeulen and Jan Harm C Pretorius, Postgraduate School of Engineering Management, Faculty of Engineering and the Built Environment, University of Johannesburg, South Africa

ID 89 Integrating quantum computing into smart maintenance scheduling problemsMarius R. Bernreuther, Hochschule Reutlingen, ESB Business School, Stellenbosch University, Reutlingen, Baden-Württemberg, Germany
Dominik Lucke, Hochschule Reutlingen, ESB Business School, Reutlingen, Baden-Württemberg, Germany
Johannes L. Jooste, Stellenbosch University, Stellenbosch, Western Cape, South Africa**ID 36 Role of Delivery Management in attaining Business Excellence through TQM: An Empirical Case Study**Sumit Kumar, Sunil Kumar and Pardeep Gupta, Department of Mechanical Engineering, SLIET, Longowal, Sangrur (Pb), India
Prabhkiran Kaur, Department of Mechanical Engineering, IKGPTU, Amritsar Campus, India**8:00 – 9:00, THURSDAY, July 18****Zoom Room 5**

Session Chair: Eren Ozgen, Florida State University, United States

Engineering Education and Entrepreneurship

ID 95 Exploring the Factors Influencing the Adoption of Virtual Reality in EducationKudakwashe Mapfumo, Department of Computer Science, Faculty of Applied Science, NUST, Bulawayo, Zimbabwe
Learnmore Masuka, Department of Computer Science, Faculty of Applied Science, NUST, Bulawayo, Zimbabwe
Belinda Mutunhu Ndlovu, Lecturer at Department of Computer Science, Faculty of Applied Science, NUST, Bulawayo, Zimbabwe
Prof Sibusisiwe Dube, Lecturer at Department of Computer Science, Faculty of Applied Science, NUST, Bulawayo, Zimbabwe**ID 63 Emerging Entrepreneurship Trends in Panama City Florida's Post-Pandemic Residential Real Estate Market**

Eren Ozgen, College of Business, Florida State University, Panama City, Florida 32405-1099 USA

ID 232 Dysergonomic Risk Management Model to Improve Productivity in the Liquefied Petroleum Gas Balloon Filling Process Using RULA and NIOSH MethodologiesClaudia Matamoros Mejia and Cristian Roman Justo, Facultad de Ingeniería, Carrera de Ingeniería Industrial, Universidad de Lima, Lima Perú
Carlos Augusto Lizárraga Portugal, Research Professor, Facultad de Ingeniería Industrial, Universidad de Lima, Lima Perú**ID 260 Lean Thinking in Supply Chains**

Raghunandan Gurumurthy, Crossover Solutions USA Inc., United States

ID 241 Designing Warehouse Operational Risk Strategy Using House of Risk and Warehouse Performance Analysis

Anton Leonardi and Dendi P. Ishak, Department of Industrial Engineering, Faculty of Engineering, Universitas Indonesia, Depok, Indonesia

July 18, 2024 (Thursday) – Session: 9:00 am – 12:00 pm – Onsite Room 1

Keynote Speakers

9:00 – 9:40 am**Keynote IX:****Dr.-Ing. Roman Ungern-Sternberg, Team Lead Operational Excellence
Fraunhofer Institute for Manufacturing Engineering and Automation, Stuttgart, Germany****ID 113 Bridging the Communications Gap between Lean Practitioners and Production Planners in Value Stream Design: A visual Tool for a Lean PPC Configuration in multi-level Product Structures**

Roman Ungern-Sternberg, Head of Business Unit End-to-End Operations, Lena Langenfeld, Research Assistant Operational Excellence, Fraunhofer Institute for Manufacturing Engineering and Automation IPA, Stuttgart, Baden-Württemberg, Germany

9:40 – 10:20 am

Keynote X:

Heike Homann

Vice President of Operations Strategy, Airbus Helicopters, Donauwörth, Germany

10:20 - 10:40 am

Networking Break

10:40 - 11:20 am

Keynote XI:

Simon Heck, Manufacturing Engineering Director EMEA

TI Fluid Systems, Rastatt, Germany

11:20 am - 12:00 pm

Keynote XII:

Dr. Steffen Klarmann

Advanced Development Director Manager, Valeo SA, Wemding, Germany

12:00 - 1:30 pm

Buffet Lunch at University Cafeteria

July 18, 2024 (Thursday) – Session: 1:30 – 3:15 pm

1:30 – 3:15 pm, THURSDAY, July 18

Onsite Room 1

Women in Industry and Academia (WIIA) Panel
Diversity and Inclusion Panel Sponsored by Ford Motor Company

Panel Chair: Dr. Nadine Warkotsch

Panel Speaker I

Professor Don Reimer

Panel Speaker II

Ghada El Mezni

Panel Speaker III

Panel Speaker IV

1:30 – 3:15 pm, THURSDAY, July 18

Onsite Room 2

**Workshop on
Digitalization in Production Planning and Control – Artificial Intelligence in
Layout Planning and Digital Methods in Assembly**

Speakers:

Prof. Dr.-Ing. Stefan Braunreuther and Marcel Öfele
Technical University of Applied Sciences Augsburg
Augsburg, Bavaria, Germany

1:30 – 3:15 pm, THURSDAY, July 18**Onsite Room 3****Session Chair: Wolfgang Nowak, Technical University of Applied Sciences Augsburg, Germany**

Supply Chain and Logistics

ID 137 Digital Transformation is the Key to Resilient Food Supply Chains: A Case Study of the MENA Region

Shoaa Nasser A M Heedan, Regina Padmanabhan, Majed Hadid and Laoucine Kerbache, College of Science and Engineering, Hamad Bin Khalifa University, Qatar

ID 138 A Fuzzy MCDM Rating Method for Supply Chain Mobile Apps

Anthony Afful-Dadzie, Eric Afful-Dadzie and Stephen Kobby Kove, Department of Operations Management and Information Systems University of Ghana Business School, LG 78, Accra, Ghana

ID 125 A Meta-Heuristic approach to design an Agricultural closed-loop supply chain network

Rajan Ponnusamy, Research Scholar, Department of Mechanical Engineering, Indian Institute of Information Technology Design and Manufacturing, Kancheepuram, Chennai, Tamil Nadu, India
Shahul Hamid Khan, Associate Professor, Department of Mechanical Engineering, Indian Institute of Information Technology Design and Manufacturing, Kancheepuram, Chennai, Tamil Nadu, India

ID 183 A Mutual Causal Analytics and Machine Learning approach for Monetary Performance Analysis of SMEs under the Implementation of Supply Chain Sustainability Regulations

Ardalan Irani and Omid Fatahi Vallai, School of Business, Social & Decision Sciences, Constructor University Bremen, Campus Ring 1, 28759, Bremen, Germany

ID 130 Assessing the influence of supply chain collaboration, environmental sustainability, and supply chain performance of manufacturing SMEs in Rwanda

Alexis Uwamahoro^{1*}, Simon Peter Nadeem², Noor Shale Ismail and Elizabeth Wachuri²,
1 School of Business and Economics, University of Rwanda,
2 Centre for Supply Chain Improvement, University of Derby, Derby DE221GB, UK
3 School of Business and Entrepreneurship, University of Agriculture and Technology, Kenya
4 School of Business and Entrepreneurship, University of Agriculture and Technology

ID 174 Challenges for the Future of Urban Logistics in Singapore: Findings from A Foresight Study

Ei Myat Kay Khine, Centre for Applied Research, Singapore University of Social Sciences, Singapore
Sugoutam Ghosh, School of Business, Singapore University of Social Sciences, Singapore
Seyed Mehdi Zahraei, Australian Maritime College, University of Tasmania, Australia

ID 199 Enabling Sustainability and Compliance for Technological Transformation in Procurement and Supply Chain

Christopher Fabian Mattaba and Omid Fatahi Vallai, School of Business, Social & Decision Sciences, Constructor University Bremen Campus Ring 1, 28759, Bremen, Germany

ID 105 Examining the Impact of Supply Chain Collaboration, Artificial Intelligence, and Risk Management on Organizational and Supply Chain Outcomes: The Mediating Role of Supply Chain Resilience

Sherbaz Khan, Jinnah University for Women, Pakistan

1:30 – 3:15 pm, THURSDAY, July 18**Zoom Room 5****Session Chair: Marcus Reppich, Technical University of Applied Sciences Augsburg, Germany**

Sustainability, Green Systems and Energy

ID 250 Advanced Solar-Powered Electrochemical Remediation System for Toxic Heavy Metal Waste Removal

Shahna Manakat Vakeri, Shah Abdul Fahad, Afifa Yousif Alremeithi, Mariam Alhammadi and Saed T. Amer, Khalifa University of Science & Technology Abu Dhabi, UAE

ID 254 Feasibility and Environmental Impacts of Pyrolysis for Converting E-Waste into Energy

Noora B. Almansoori, Areej Bin Amro, Jwahir Albreiki, Maryam Alkatheeri and Saed T. Amer, Health, Safety and Environment Engineering Department of Management Science and Engineering, Khalifa University, Abu Dhabi, United Arab Emirates

ID 257 Potential Waste Management of Recycling Critical Material of PV Cells in the UAE

Abdulla Yousuf Al Marzooqi, Radiation Analyst - Abu Dhabi Quality & Conformity Council, Health, Safety and Environment Engineering, Department of Industrial and Systems Engineering, Khalifa University, Abu Dhabi, United Arab Emirates
Abdulrahman Saleh Al Hashmi, ADNOC Sour Gas, Health, Safety and Environment Engineering, Department of Industrial and Systems Engineering Khalifa University, Abu Dhabi, United Arab Emirates
Mariam Ali Al Aboodi, Engagement and Development Officer - Khalifa University, Engineering Systems and Management in the Industrial Engineering Department, Khalifa University, Abu Dhabi, United Arab Emirates
Saed T. Amer, Health, Safety and Environment Engineering, Department of Management Science and Engineering, Khalifa University Abu Dhabi, United Arab Emirates

July 18, 2024 (Thursday) – Session: 3:30 – 5:30 pm

3:30 – 5:30 pm, THURSDAY, July 18**Onsite Room 1**

Session Chair: Arne Mayer, Technical University of Applied Sciences Augsburg, Germany

Manufacturing, Assembly and Design**ID 158 Design and Manufacture of a Universal Disc Harrow Hub**Clemence Fuma, Lecturer, Harare Polytechnic, Cy 407, Causeway, Harare, Zimbabwe
Charles Danga, Lecturer, Harare Polytechnic Cy407, Causeway, Harare, Zimbabwe**ID 165 Exploring of Critical Success Factors for Modular Construction in Housing Projects in Saudi Arabia**Dr. Ahmed Ghaithan, Research Professor, King Fahd University of Petroleum and Minerals (KFUPM), Dhahran, Saudi Arabia
Tarig Arif Abdellhalim, Architectural Engineering and Construction Management Department, King Fahd University of Petroleum and Minerals Dhahran, EKPA7024, Saudi Arabia**ID 13 Influence of Construction-Related Quality Controls on the Operational Quality of Fire Alarm Systems**Stefan Siegfried Veit, Doctoral Student, Faculty of Electrical Engineering, University of West Bohemia, Pilsen, Czech Republic
TÜV SÜD Industrie Service GmbH, Munich, Germany
Dr. Frantisek Steiner (PhD), Professor, Faculty of Electrical Engineering, University of West Bohemia, Pilsen, Czech Republic**ID 41 Optimization of Parallel Machine Scheduling for a Plastic Pallet Manufacturing Company**

Yiyo Kuo and Dong-Xuan Li, Department of Industrial Engineering and Management, Ming Chi University of Technology, New Taipei City, Taiwan

ID 17 Power Station Fly Ash Production System and Beneficiation Material Balance: A Case Study for Cement Industry and the Need for Green Energy Production

Asser Letsatsi Tau, Emmanuel Innocents Edoun, Charles Mbohwa and Anup Pradhan, Faculty of Engineering and the Built Environment, School of Mechanical Engineering and Industrial Engineering, Department of Quality and Operations Management, University of Johannesburg, 55 Beit St, Doornfontein, Johannesburg, 2028, South Africa

3:30 – 5:30 pm, THURSDAY, July 18**Onsite Room 2****Workshop on
Digitalization in Production Planning and Control – Artificial Intelligence in
Layout Planning and Digital Methods in Assembly****Speakers:**Prof. Dr.-Ing. Stefan Braunreuther and Marcel Öfele
Technical University of Applied Sciences Augsburg
Augsburg, Bavaria, Germany**3:30 – 5:30 pm, THURSDAY, July 18****Onsite Room 3**

Session Chair: Marcus Reppich, Technical University of Applied Sciences Augsburg, Germany

Sustainability, Green Systems and Energy**ID 28 Status of Integrated Management System (IMS) in Heavy Equipments Manufacturing Industry-A Case Study**

Deoraj Prajapati, Punjab Engineering College (Deemed to be University) Chandigarh, India India

ID 180 Sustainability Green Practices in Ghana: A Review of Stakeholder Perspectives

Mahmoud Abdulai Mahmoud, Associate Professor Marketing, Department of Marketing, University of Ghana Business School, College of Humanities, University of Ghana

ID 110 Technological Innovation and Sustainable Green Practices on the Green Performance of Small and Medium-Sized Enterprises (SMEs) in a Climate-Crisis EraDivine Q. Agozie, Lecturer, University of Ghana, Business School, Accra, Ghana
Esther E. Agozie, Volunteer, University of Ghana, Business School, Accra, Ghana**ID 128 A Systems Thinking approach to analyse sustainability strategies, employee motivation and impact on financial performance**Monique Gahigiro, School of Engineering, University of Bradford, Bradford, West Yorkshire, UK
Jose Eduardo Munive-Hernandez, School of Engineering, University of Bradford, Bradford, West Yorkshire, UK
Sahar ALMashaqbeh, Department of Industrial Engineering, the Hashemite University, Jordan

ID 32 AI Facilitated Resilient & Robust Decision Modelling for Product Recovery Supply Chains
Prof Jitender Madaan, Professor, Department of management Studies, Indian Institute of Technology delhi India

ID 103 Analysis of The Determinants of Sustainable Supply Chain Management and Implications for Local Construction Companies' Competitiveness in Ethiopia
Zellalem Tadesse Beyene, Lecturer of Logistics & Supply Chain Management, Addis Ababa University, Ethiopia
Simon Peter Nadeem, Center for Supply Chain Improvement, University of Derby, U.K
Matiwos Ensermu Jaleta, Logistics & Supply Chain Management, Addis Ababa University, Ethiopia

ID 88 Assessment of Projected Outcomes and Potential Scenarios from Implementing Fusion Energy in the Gulf Cooperation Council (GCC) Countries
Ibrahim A. Alrammah, Research, Development and Innovation Authority, Riyadh, Saudi Arabia

3:30 – 5:30 pm, THURSDAY, July 18

Zoom Room 5

Session Chair: Erdiansyah Erdiansyah, Universitas PGRI Palembang, Indonesia

Business Management and Operations Management

ID 231 Concurrent Engineering: Practice and Performance
Nader Santarisi, Industrial Engineering, Engineering Technology and Science, Higher Colleges of Technology, Dubai Women's Campus
Dubai, UAE

ID 236 Production Management Model to reduce the percentage of rejected products in a Food Company based on Lean Manufacturing Tools
Alfredo Quintana-Lorenzo, Jimena Caceres-Belapatiño and Alberto Flores-Perez, Facultad de Ingeniería. Universidad de Lima, Lima, Perú

ID 238 The Empirical Evidence of The Impact of Green Finance and Green Revenue on Financial Performance of Asean Selected Industries: The Mediating Role of Governance, Risk, and Compliance (Grc)
Fitria Marisya, Sulastrri, Isnurhadi and Marlina Widiyanti, Dapartment of Management Science, Faculty of Economic, University of Sriwijaya
Palembang, South Sumatera 30128, Indonesia

ID 239 Digital Literacy towards the sustainability of MSMEs through Social Media Engagement
Erdiansyah, Didik Susetyo, Muchsin Saggaff Shihab and Ahmad Maulaana, Department of Management Science, Faculty of Economics, Sriwijaya
University, Palembang, South Sumatra 30128, Indonesia

ID 240 Perceived Organizational Support and Its Moderating Effect on the Relationship between Career Development and Lecturer Performance in Vocational Education
Sri Porwani, Mohamad Adam, Zunaidah and Yuliani, Department of Management Science, Faculty of Economics, University of Sriwijaya
Palembang, South Sumatra 30128, Indonesia

ID 252 Operational Attributes and Their Impact on Patient Choices: An Analysis of Physician Review Websites
Anu Rani and Saini Das, Vinod Gupta School of Management, Indian Institute of Technology, Kharagpur, India

ID 258 Analyzing the Critical Challenges of Cyber Insurance Market: A Fuzzy DEMATEL Approach
Subinoy Banerjee, Research Scholar, Vinod Gupta School of Management, Indian Institute of Technology, Kharagpur, West Bengal, India
Dr. Saini Das, Vinod Gupta School of Management, Indian Institute of Technology, Kharagpur, West Bengal, India

ID 263 Digital Literacy towards the sustainability of MSMEs through Social Media Engagement
Erdiansyah, Didik Susetyo, Muchsin Saggaff Shihab and Ahmad Maulaana, Department of Management Science, Faculty of Economics, Sriwijaya
University, Palembang, South Sumatra 30128, Indonesia

July 18, 2024 (Thursday) - Session: 6:00 – 9:00 pm

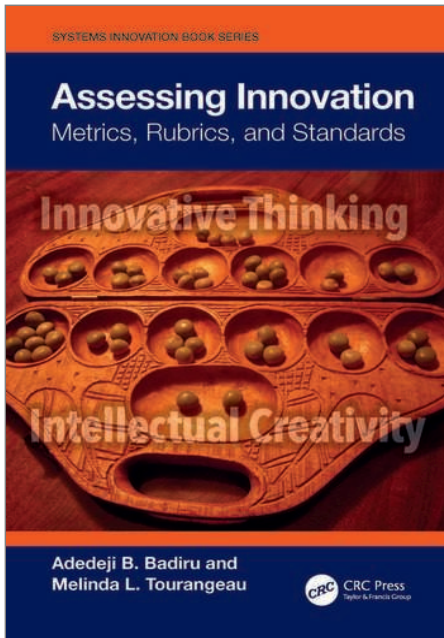
Conference Awards Ceremony and Dinner

**Post Conference – July 19 (Friday)
Daimler Factory Plant Tour (Mercedez Benz) – Stuttgart
Leaving from Ausgburg at 11:30 am**

Participants from the following countries and territories

1. Algeria
2. Australia
3. Bangladesh
4. Brazil
5. Canada
6. China
7. Colombia
8. Croatia
9. Czech Republic
10. Denmark
11. Ethiopia
12. Finland
13. France
14. Germany
15. Ghana
16. India
17. Indonesia
18. Iran
19. Israel
20. Italy
21. Jordan
22. Kuwait
23. Lebanon
24. Mexico
25. Morocco
26. Oman
27. Pakistan
28. Peru
29. Philippines
30. Poland
31. Portugal
32. Qatar
33. Rwanda
34. Saudi Arabia
35. Singapore
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Assessing Innovation

Metrics, Rubrics, and Standards

Adedeji B. Badiru, Melinda Tourangeau

We cannot effectively manage and control what we cannot measure and assess. Lack of appropriate assessment tools and measures have been cited as a reason for project failures, in terms of cost, schedule, and quality. This book launches the methodology for assessing innovation using relevant and sustainable metrics, rubrics, and standards.

Assessing Innovation: Metrics, Rubrics, and Standards, provides a new view for embracing innovation and establishing a quantitative basis for determining innovation progress. It bridges innovation with practice through a systems view while incorporating the nonnegotiable human element and the different roles innovative members carry out. This book offers standards that will guide readers as they tackle sustaining innovation and leverages Badiru's Umbrella Model in the process.

The inclusion of methodologies suitable for determining where and when innovation is happening, and to what extent it is currently being carried out, make this a unique book, along with being the only book that addresses innovation metrics, rubrics, and standards in an integrated fashion. Seen as a way to help advance the diverse pursuit of innovation, this book is an ideal read for those in engineering, business, industry, academia, government, and the military.

Adedeji B. Badiru is a Professor of Systems Engineering at the Air Force Institute of Technology and a registered professional engineer. He is also a fellow of the Institute of Industrial Engineers and Fellow of the Nigerian Academy of Engineering. Dr. Badiru has a BS degree in Industrial Engineering, an MS in Mathematics, an MS in Industrial Engineering from Tennessee University, and a PhD in Industrial Engineering from the University of Central Florida. He is the author of several books and technical journal articles and has received several awards and recognitions for his accomplishments. He is also a series editor for CRC Press/Taylor and Francis.

Melinda L. Tourangeau is the Executive Director of the RVJ Institute, a 501 c (3) center of excellence and research institute dedicated exclusively to excellence in the electromagnetic environment. She possesses advanced degrees in Electrical Engineering and Business Administration and is currently pursuing a PhD in Education with an emphasis on organizational systems. Ms. Tourangeau is considered a subject matter expert in Electromagnetic Warfare and Electromagnetic Spectrum Operations. She has authored numerous reports for the Department of Defense and US Congress and given presentations to audiences in Europe, Hawaii, Canada, and the United States. Her background emphasizes electro-optics, lasers, and semiconductor physics, as well as organizational and leadership systems. Her career includes serving as a Department of Defense program manager for critical Electromagnetic Warfare programs and serving in the U.S. Air Force.

TABLE OF CONTENTS

1. Fundamentals of Measurements and Rubrics.
2. Defining Matrix and Metrics for Innovation.
3. Concept of Standards, Rubrics, and Metrics for Innovation.
4. Statistical Engineering Approach to Innovation Metrics.
5. Engineering Economic Analysis of Innovation Projects.
6. Economic Metrics for Innovation.
7. Quantifying the Utility of Innovation.
8. Innovation on the Edge of Dollars: A Case Study

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International Journal of Industrial Engineering and Operations Management



Tours

Daimler (Mercedes Benz) Automotive Factory Plant Tour, Stuttgart (2 hours from Augsburg)- July 15, 2024 (Pre-Conference). – bus will leave at 11:30 am and tour will start at 2 pm. Capacity 30, Fee – \$50

- Dr.-Ing. Neven Majić will lead the tour on Monday's Daimler Plant
-

KUKA Factory Tour – July 15, 2024 (Pre-conference), Fee – \$20

- Dr.-Ing. Matthias Kurze will lead the tour
 - Max. size is 58.
 - The tour start at KUKA is 3pm and lasts until 4.30 pm
 - Meet at the KUKA plant. See below map.
-

Daimler (Mercedes Benz) Automotive Factory Plant Tour, Stuttgart (2 hours from Augsburg) – July 19, 2024 (Post Conference) – bus will leave at 11:30 am and tour will start at 2 pm. Capacity 60. Fee – \$50

KUKA Plant Tour Location – Participants will go to KUKA Augsburg Plant Directly.

KUKA location Augsburg – See the below directions

KUKA Aktiengesellschaft
Zugspitzstrasse 140
86165 Augsburg /Germany
T +49 821 797 – 50
kontakt@kuka.com
www.kuka.com

If coming from the direction of Munich or Stuttgart

Leave the A8 autobahn (highway) at the Friedberg exit (no. 74 a). At the roundabout, take the exit towards Friedberg and continue as far as the exit “Gewerbegebiet Business-Park Friedberger See”. Then, at the next roundabout, take the Lechhauser Strasse exit towards Augsburg-Zentrum. This then becomes Blücherstrasse. Turn left into Zugspitzstrasse. This will take you to Zugspitzstrasse 140, KUKA Development and Technology Center, Reception and KUKA College. Visitor spaces are available in the parking garage.

Augsburg Airport

Approx. 15 min. journey time www.augsburg-airport.de

Munich Airport

Approx. 1 hour by car, or approx. 1.5 hours with the Airport Bus, stopping at central railway station (Hauptbahnhof) or Mühlhausen (Augsburg Airport) www.munich-airport.de

Taxi

Approx. 20 min. journey time from central railway station. www.taxi-augsburg.de

Tram

From Augsburg central railway station: approx. 25 min. journey time, first by bus or tram towards “Königsplatz”, and from the “Königsplatz” stop, take tram line 1 heading to “Neuer Ostfriedhof” and get off at the “KUKA/Partnachweg” stop. www.stawa.de

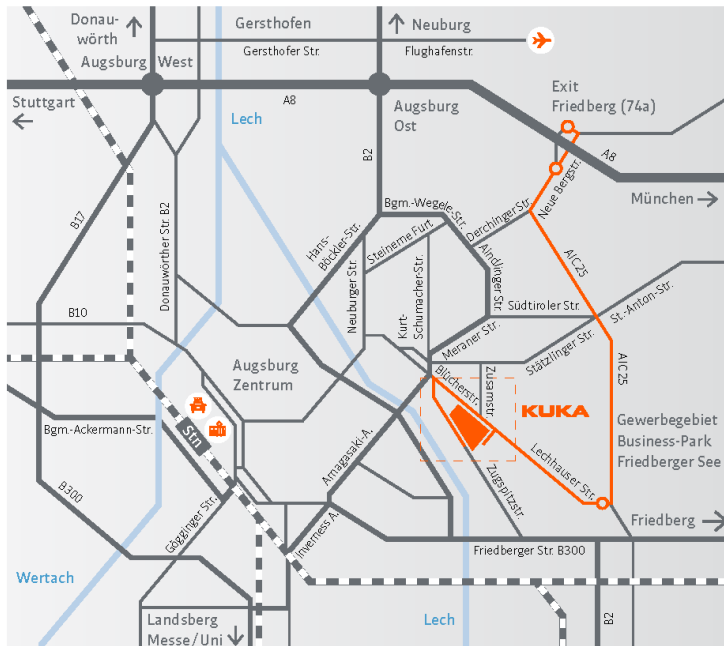
Receiving, dispatch and external companies

From Blücherstrasse turn into the approach road to Gate 5.



Directions

KUKA location Augsburg



KUKA Aktiengesellschaft
 Zugspitzstrasse 140
 86165 Augsburg / Germany
 T +49 821 797 - 50
 kontakt@kuka.com
 www.kuka.com

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www.stawa.de

Receiving, dispatch and external companies

From Blücherstrasse turn into the approach road to Gate 5.



Augsburg City Tour

Worthy sights from Augsburg's long and prestigious history:

- the opulent Renaissance City Hall
- the Fuggerei
- the idyllic artisans quarter with its quaint canals flowing from the rushing Lech river
- the patrician palaces along Maximilian Street, (one of Germany's loveliest boulevards),
- the Brechthaus museum - the birth house of Berthold Brecht between two Lech canals.
- 16th July Tuesday & 17th July Wednesday
- Start at 6pm (duration 2 hours)
- Meeting Point: in front of T-Building
- **Sign in at the information desk!**



**Augsburg's Manufacturing Heritage and pioneering research by the AI Production Network
T-Building (on Campus)**

An account of manufacturing in Augsburg highlights the rich history of the city, from its origins as a Roman military post to its transformation into the 'German Manchester' during the Industrial Revolution, and finally to its current status as a high-tech region and esteemed research hub.

Opening hours are:

Monday 15th of July: 7:30 - 9:00 am and 12 – 3 pm

Tuesday 16th of July: 7:30 - 9:00 am and 12 – 3 pm

Wednesday 17th of July: 7:30 - 9:00 am and 12 – 3 pm

Thursday 18th of July: 7:30 - 9:00 am

IEOM Conference Rooms 1-5 in B-Building**Lunch (M-Building)**

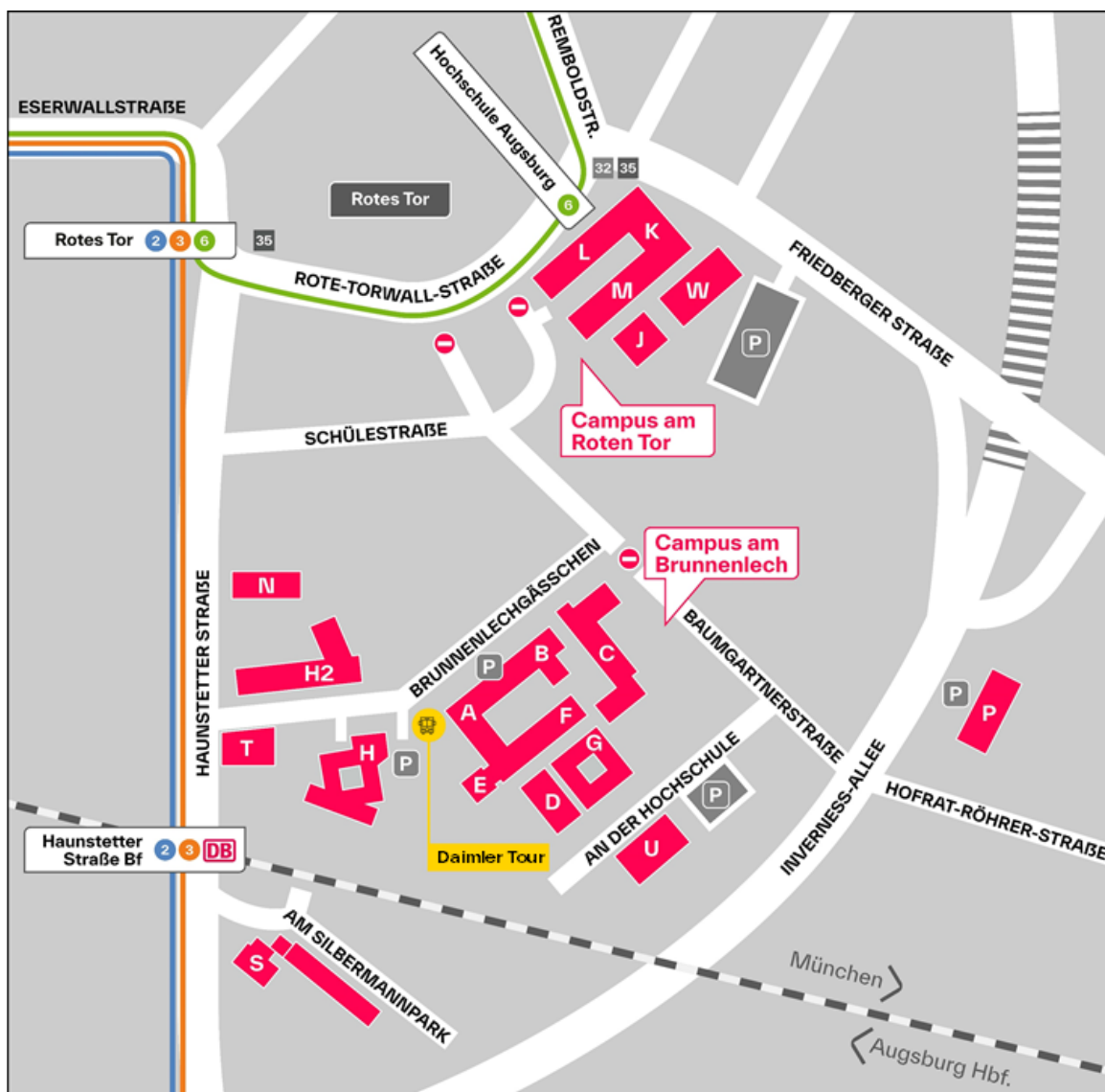
- University Cafeteria
- 12 – 1 pm each day

Showroom (T-Building)

- The History of Manufacturing in Augsburg
- Augsburg City Tour Meeting location (at 6pm)
- AI Production Network in Augsburg

Workshop Location (F-Building)

- Open Industrial Training Center – OITC



IEOM Student Chapter at Augsburg

IEOM Student Chapter U Bologna

IEOM Student Chapter Derby

IEOM Student Chapter Bristol

IEOM Student Chapter at Sofia University, BULGARI

Portugal

France

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Bahrain	93. Nawab Shah Alam Khan College Eng & Tech (NSAKCET)	177. Pontificia Universidad Católica del Perú (PUCP)
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57. Universidad Nacional Abierta y a Distancia (UNAD)	140. Universiti Utara Malaysia (UUM)	223. University of Derby
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84. IITS, India	170. Papua New Guinea University of Technology	

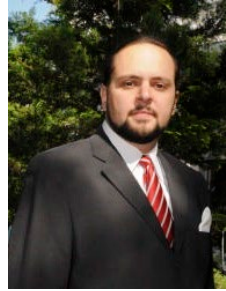
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Sept. 10-12, 2024, Tokyo, Japan
Host: Hosei University, Venue: Waseda Univ.



**Industrial Engineering and
Operations Management
Annual World Congress**
October 9-11, 2024, Detroit, USA
Venue: Lawrence Technological University



3rd Australian Conference on
**Industrial Engineering and
Operations Management**
Sydney, Australia, Sept, 24-26, 2024
Venue: HILTON SYDNEY



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15th International Conference on
**Industrial Engineering and
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February 18-20, 2025, Singapore
Host: Singapore University of Social Sciences



6th South American IEOM Conference

Sorocaba, Sao Paulo, Brazil, May 13-15, 2025

Host and Venue: Facens University, Sorocaba, Brazil

Conference Chair: Dr. Rodrigo Luiz Gigante

10th North American IEOM Conference

Orlando, Florida, June 24-26, 2025

Host and Venue: University of Central Florida

Conference Chair: Dr. Luis Rabelo, UCF

8th European IEOM Conference

Paris, France, July 2-4, 2025

Host and Venue: IESEG

Conference Chair: Dr. Linda Zhang

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