IEOM

8th IEOM Bangladesh International Conference on Industrial Engineering and Operations Management

Dhaka, Bangladesh

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WORLD UNIVERSITY OF BANGLADESH

December 20–21, 2025

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Industrial Engineering and Operations Management Society International

IEOM Society International, 21411 Civic Center Dr., Suite 205, Southfield, Michigan 48076, USA
Phone: 1-248-450-5660, Email: info@ieomsociety.org

Welcome to the 8th Bangladeshi International Conference on Industrial Engineering and Operations Management, Dhaka 2025 at WUB

On behalf of the IEOM Society International, we would like to welcome you to the 8th **Bangladeshi International Conference on Industrial Engineering and Operations Management, December 20-21, 2025. It is organized by the IEOM Society International and hosted by the World University of Bangladesh (WUB).** This unique international conference provides a forum for academics, researchers, and practitioners from many industries to exchange ideas and share recent developments in industrial engineering and operations management. This diverse international event provides an opportunity to collaborate and advance the theory and practice of major trends in industrial engineering and operations management. More than 290 papers/abstracts were submitted from 15 countries. The program includes many cutting-edge topics in industrial engineering and operations management.

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

1. Brig Gen. A K M Khabirul Islam, PhD, Head, Department of Industrial and Production Engineering, Military Institute of Science and Technology (MIST), Mirpur Cantonment, Dhaka, Bangladesh
2. Rear Admiral Dr. Khandakar Akhter Hossain, NUP, ndc, psc, PhD, Vice-Chancellor, Bangladesh Maritime University, Dhaka
3. Dr Navid Saleh, Jewel McAlister Smith Professor, Maseeh Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, USA
4. Dr Ahsan Habib, PhD, Professor, School of Planning, and Dept. of Civil and Resource Eng., Dalhousie University, Canada
5. Vaibhavi V. Chavan, Senior Lecturer in Project Management, Ravensbourne University London, Greenwich Peninsula, London
6. Professor Javaid Butt, Professor of Manufacturing and Product Design, Birmingham City University, Birmingham, UK
7. Md Sourove Akther Momin, Senior Deputy Operative Director, Walton Hi-Tec,. Ind. PLC., Dhaka, Bangladesh
8. Dr Md Ashikul Alam Khan, Program Director, MSc Management Suite, Graduate School of Management, Birmingham City University, UK
9. Dr Md. Mazharul Habib, Director (R&D) and Centre Head, Bangladesh Industrial Technical Assistance Centre (BITAC), Dhaka
10. S.M. Tofayel Ahmad, Additional Director (ICT), Bangladesh Bank, Dhaka, Bangladesh
11. Dr Ahm Shamsuzzoha, Associate Professor (Tenure track), Industrial Systems Analytics, University of Vaasa, Finland
12. Dr Shamim Ahamed, Department of Biological and Agricultural Engineering, University of California, Davis, California, USA
13. Dr Shakil Quayes, Chair, Dept. of Economics, University of Massachusetts Lowell, Health & Social Sciences, Lowell, MA, USA
14. Dr Shameem Ahmed, Associate Professor, Department of Computer Science, Western Washington University, USA
15. Brig Gen S M Lutfor Rahman, Vice Chancellor, Bangladesh Army University of Engineering Technology, Qadirabad Cantonment, Natore, Bangladesh
16. Dr Ferdous Sarwar, PhD, Professor, Department of Industrial & Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

The IEOM Society extends its appreciation to WUB, the conference chairs and committee members. The IEOM Society also expresses its sincere thanks to our sponsors, university partners, corporate partners, organizational collaborators, authors, reviewers, keynote speakers, panelists, track chairs, advisors, the local committee, and the numerous volunteers whose dedicated contributions of time and talent have played a pivotal role in ensuring the success of the 2025 IEOM Bangladesh Conference.

Wishing you a wonderful and enriching experience at the conference at WUB campus!

Prof. Dr. Md. Mizanur Rahman
Conference Chair
Professor, Mechatronics Engineering Dept.
World University of Bangladesh
Dhaka, Bangladesh

Dr. Ahad Ali
Conference Co-Chair
Assoc. Prof., Director, Doctor of Engineering in Adv Manufacturing
Director of Industrial Engineering
Lawrence Technology University
Executive Director of IEOM

Prof. Don Reimer
Program Co-Chair
Chief Operating Officer
IEOM Society International
Southfield, Michigan, USA

Keynote Speakers

Day 1 – December 20 (Saturday), 2025

9:00 – 9:30 am, December 20

Conference Opening Ceremony

9:30 – 10:00 am, December 20 – Keynote I:

Brig Gen AKM Khabirul Islam, PhD
Head, Department of Industrial and Production Engineering (IPE)
Military Institute of Science and Technology (MIST)
Dhaka, Bangladesh

Dr. AKM Khabirul Islam is a distinguished academic, researcher, and engineering professional with over two decades of exemplary contributions spanning academia, research, industry, and international organizations. He began his academic journey with a Bachelor's degree in Mechanical Engineering from Khulna University of Engineering and Technology (KUET), followed by a Master's in Industrial and Production Engineering from the Bangladesh University of Engineering and Technology (BUET). He later earned his PhD in Energy Engineering from Ulster University, United Kingdom, where he conducted groundbreaking research on afordable electrode materials for hydrogen production from wastewater, advancing the frontier of sustainable energy technology.

Dr. Islam's professional career reflects a rich blend of industrial leadership and academic excellence. He served as Deputy General Manager at Bangladesh Machine Tools Factory Ltd., where he contributed to industrial modernization and the integration of advanced manufacturing systems. His distinguished service continued as Chief Inspector of Inspectorate of Armament and Explosives, where he oversaw critical defense engineering operations and safety management at the national level.

In academia, Dr. Islam has built an impressive record of teaching and institutional development. He served as Instructor Class B and later Instructor Class A at the Department of Mechanical as well as Industrial and Production Engineering, Military Institute of Science and Technology (MIST), where he taught courses on manufacturing processes, design engineering, and Renewable energy, Machien tools and Engineering materials. He later advanced to serve as Instructor Class A at the Bangladesh Military Academy (BMA), where he was instrumental in establishing the newly formed Mechanical Engineering Department, developing curricula, and designing laboratory facilities to strengthen engineering education for future defense professionals.

Currently, Dr. Islam leads as the Head of the Department of Industrial and Production Engineering (IPE) at MIST, guiding the department's academic and research vision toward sustainable industrial development and innovation. His research interests span renewable energy, hydrogen generation, sustainable manufacturing, circular economy, and smart production systems. Dr. Islam has undertaken extensive international research collaborations and academic visits to Spain, Australia, the Czech Republic, the USA, the UK, Austria, the Netherlands, Belgium, Russia, Malaysia, and Switzerland, strengthening global partnerships in hydrogen energy and clean technologies. He remains devoted to expanding hydrogen technology beyond his collaborations with the H_2 Energy Lab of Bangladesh, promoting green hydrogen research and applications to support global decarbonization.

A Fellow of the Institution of Engineers, Bangladesh (IEB) and recipient of UK Department for the Economy (DfE) Fellowship, PhD Fellowship and the ALICE Project Grant (Spain), Dr. Islam continues to champion sustainable engineering, hydrogen innovation, and clean-energy technologies for a greener and more resilient future.

10:00 – 10:30 am, December 20 – Keynote III:

Rear Admiral Dr. Khandakar Akhter Hossain, NUP, ndc, psc, PhD
Vice-Chancellor, Bangladesh Maritime University
Dhaka, Bangladesh

Rear Admiral Dr. Khandakar Akhter Hossain joined Bangladesh Navy in 1988. He completed both his B.Sc. and M.Sc. Engineering from BUET with distinction, securing First Class First. He also holds an MBA from the University of Dhaka. Additionally, he has earned two prestigious Doctor of Philosophy (PhD) degrees one from BUET on Heavy Industries, and another from California, USA, focusing on Advanced Technology and Management. He held the position of Dean and

Head of the Naval Architecture and Mechanical Engineering Faculty at the Military Institute of Science and Technology (MIST). He also served as Member Engineering at the Chittagong Port Authority and as Managing Director of all three major industry and shipyards operated by the Bangladesh Navy namely Chittagong Dry Dock Limited, Dockyard & Engineering Works Ltd. Khulna Shipyard Ltd. and as Commodore Superintendent at BN Dockyard. Before joining BMU university as Vice Chancellor, he held the esteemed position of Assistant Chief of Naval Staff (Materiel) at Naval Headquarters.

Rear Admiral Akhter is a life time Fellow of several prestigious institutions, including the Institution of Engineers, Bangladesh (IEB), the Royal Institution of Naval Architects (RINA), UK, and the International Association of Maritime Security Professionals (IAMSP), USA. He has authored more than 150 international publications on a wide range of subjects, including Artificial Intelligence, IoT, Robotics, Satellite Communication, Shipbuilding, Ship- recycling, Energy Solutions, Smart Port Operations, Blockchain, Machine Learning, Cryptocurrency, Quantum Technology, etc. His work has been published in leading technical journals worldwide including USA, Europe, Australia, Japan, China, and others. His few dozen of books has published in Amazon USA. His academic excellency, research, publication and focus on maritime and advanced professional technologies, reflecting his strong commitment and dedication to innovation, leadership and wisdom in both national and international arenas.

10:30 – 11:00 am, December 20 – Keynote IV:

Dr. Navid Saleh
Jewel McAlister Smith Professor
Maseeh Department of Civil, Architectural and Environmental Engineering
University of Texas at Austin, Texas, USA

Presentation Title: Empathic design of water treatment technologies

Dr. Saleh is the Jewel McAlister Smith Endowed Professor in the Cockrell School of Engineering. His research focuses on human-centered empathic design of nano-enabled water treatment technologies. This work is centered around three thrust areas that he calls the 3E's; i.e., Engage, Engineer, and Evaluate. Engage—community-engaged research, Engineer—community-embedded nano-enabled treatment solutions, and Evaluate—mechanistic studies on the fate of emerging contaminants and effects of climate change on water quality—will allow his research to contribute toward solving major water issues for less-fortunate communities. His core research now aims to converge Indigenous knowledge with Western scientific knowledge to seek water solutions. Saleh research group works with Zapotec communities in Mexico, Navajo and Alaska Natives in the US, and Chakma community in Bangladesh. Saleh's research has produced 102 refereed publications and 7 book chapters with more than 12,000 citations and an h-index of 44. Saleh's research has been recently featured in PBS NOVA's documentary titled: Building Stuff: Change it! Dr. Saleh serves as an Editor for the Journal of Hazardous Materials and Total Environment Engineering. He served as the President of the Sustainable Nanotechnology Organization. He also sits in the Editorial Boards of Environmental Science & Technology and Environmental Science: Nano.

11:00 – 11:30 am – Break

11:30 am – 12:00 pm, December 20 – Keynote V

Md. Sourove Akther Momin
Senior Deputy Operative Director
Walton Hi-Tec,. Ind. PLC.
Dhaka, Bangladesh

Innovative, industrious Data Science and Applied Statistics professional with a proven record of accomplishment in applying machine learning, AI, big data analytics, and advanced statistical modeling to solve real-world industrial and business problems. A communicative and encouraging academic and industry contributor who presents ideas effectively and assists others in adopting the latest data-driven procedures.

Held a variety of academic and professional roles with responsibilities in data analysis, applied regression, time series forecasting, business intelligence, and process improvement. Experienced in bridging the gap between theory and practice by working with small and medium-sized enterprises (SMEs) to implement cost-effective, data-driven solutions. Strong technical, organizational, and leadership skills used to implement innovative projects, lead change, and promote growth through teamwork and continuous improvement.

Mr. Sourove has served Walton Hi-Tech Industries PLC (Compressor Manufacturing Unit) for the past six years, holding several positions across different departments. During this time, he has gained extensive experience in process engineering, design engineering, World Class Manufacturing (WCM) implementation, lean manufacturing, Six Sigma, 5S implementation, FMEA, root cause analysis, cutting tools engineering, metal cutting manufacturing, motor manufacturing, project management, SolidWorks design, AutoCAD design, process improvement, electrical and mechanical design, plant layout analysis, audit programs, and technical training programs. He has also worked closely with multiple suppliers to procure machinery efficiently and has been actively involved in developing organizational policies. In these roles, he has applied statistical software, big data platforms, and AI-powered tools to design and implement solutions for production planning, supply chain optimization, and business decision-making. He has also supervised projects focusing on simulation, process mapping, and continuous improvement initiatives. Mr. sourove has completed and delivered several trainings in applied statistics, machine learning applications, big data analytics, quality improvement, and predictive modeling, contributing to professional development for both students and industry practitioners. In recognition of his contributions to the field, he has been assigned as a Reviewer for the 2nd IEOM 2025 World Congress in Windsor, Ontario, Canada.

12:00 – 12:30 pm, December 20 – Keynote VI:

Ms. Vaibhavi V. Chavan
Senior Lecturer in Project Management
Department: Computing and Business – Project Management
Ravensbourne University London
Greenwich Peninsula, London, UK

Vaibhavi Chavan works as a Senior Lecturer (Associate Professor) at Ravensbourne University London. Currently, she is also working as an External Examiner for MSc Project Management programme at Leeds Trinity University, UK. In past, she worked as a Deputy Programme Manager and Lecturer in Project Management & Engineering Management at the University of Sunderland in London. She holds an industrial experience working as a Business Consultant on client's project at the Renfrewshire Council, Glasgow, Project Management Assistant serving two IT projects in Canberra, Australia, and a one-month Business Analytics apprentice at Simul 8 corporation in Glasgow.

Vaibhabi is a Doctoral Researcher in Project Management at Alma Mater Europaea University, Austria & Slovenia. She did her second Master's in Business Analysis & Consulting at the University of Strathclyde, United Kingdom and completed her first Master's degree in Project Management at the Australian National University, Australia. She has a background in Bachelor's in Electronics & Telecomm Engineering at Shivaji University, India. She has completed her UK teaching qualifications namely, Postgraduate Certificate in Higher Education (PGCE) at University of Sunderland, UK and has a Fellowship of the Higher Education Academy (FHEA), UK.

In past, she worked as a Project Lead for an Innovative Research Project in HE at Alma Mater Europaea University, Assistant Professor for the MBA department teaching International Business, Project Management, & Business Analytics specialisations, and guided all specialization mini-projects, master's dissertation projects. She also worked as a Lecturer teaching Electronics & Telecommunication Engineering specialisation subjects to undergraduate students.

12:30 – 1:00 pm, December 20: – Keynote VII:

Professor Javaid Butt
Professor of Manufacturing and Product Design
Birmingham City University
Birmingham, United Kingdom

Professor Javaid Butt is a recognised expert in advanced manufacturing, specialising in the interdisciplinary domains of additive manufacturing, digital twins, and Industry 4.0. He is the Director of the Smart and Sustainable Manufacturing Research Group at Birmingham City University, with a robust portfolio of externally funded projects amounting to over £6.9 million. These projects, sourced from diverse funding streams including Innovate UK, British Council, Erasmus+, Interreg North Sea Region, KTP, and KEEP+, underscore his adeptness in securing and managing substantial research grants.

The majority of his work has been in collaboration with industrial partners where he has successfully delivered impactful and innovative projects leading to patent applications, derogation claims, and commercial value in the form of new products and services.

Professor Butt's expertise extends to the design and development of diverse manufacturing systems to various technology/manufacturing readiness levels by adeptly leveraging a range of automation principles and programming languages. These systems have been used to manufacture bespoke plastic, metal, and composite products for different industries. Professor Butt's current research focuses on developing advanced digital twins for additive manufacturing systems through the integration of physics-based numerical simulations with data-driven machine learning algorithms.

Professor Butt holds a BSc degree in Mechatronics and Control Engineering (University of Engineering & Technology, Pakistan), an MSc degree in Advanced Mechanical Engineering Sciences/Mechatronics (University of Southampton, UK), and a PhD in Additive Manufacturing (Anglia Ruskin University, UK). Commencing his professional career at Anglia Ruskin University (ARU) as a Lecturer in 2016, he rapidly ascended to the position of Associate Professor in 2020 and was appointed as a Professor of Manufacturing and Product Design at Birmingham City University in 2023.

His impactful research leadership has garnered three prestigious awards at ARU, including the Vice Chancellor's Award in the 'Outstanding Knowledge Exchange Collaboration' category in 2023, Faculty of Science & Engineering Dean's Award in the 'Research and Partnerships' category in 2022, and the Vice Chancellor's Award in the 'Outstanding Research and Innovation Established Researcher' category in 2021.

Education: PhD in Additive Manufacturing (Anglia Ruskin University, UK), PG Cert, Learning and Teaching in Higher Education (Anglia Ruskin University, UK), MSc Advanced Mechanical Engineering Sciences/Mechatronics (University of Southampton, UK) and BSc (Hons) Mechatronics & Control Engineering (University of Engineering & Technology, Pakistan)

1:00 – 2:30 pm: Lunch and Prayer Break

2:30 – 3:00 pm, December 20, Keynote IX:

Md Ashikul Alam Khan, PhD, FHEA
Program Director, MSc Management Suite
Graduate School of Management
Birmingham City University, Birmingham, UK

After completion of higher secondary education in Bangladesh, Ashik joined Anglia Ruskin University (ARU), Cambridge, UK for studying engineering. In 2015 he gained BEng (Hons) Electronic Engineering and subsequently attained MSc. Engineering Management (2017) and PhD (2021) from the same University. Dr Ashik's PhD integrated the techniques of business process re-engineering and genetic algorithm to design a method to transform structured data into smart structured data for business process interdependence quantification and optimisation. He has taught at different Universities primarily in operations and supply chain management, business process modelling and simulations, business process and system analysis, digital transformation, and strategic management. Prior to joining Birmingham City University (BCU) Ashik worked as a research assistant for Engineering Analysis Simulation and Tribology (EAST) research group (2017-2018) at ARU and as a technician in proactive control, quality, and evaluation protocol design for manufacturing SMEs and HEIs collaboration towards a common PhD path for the European Union (2018-2021). He had collaborated and worked with the number of Universities and manufacturing farms in Greece, Italy, Poland, Romania, Spain, Sweden, and the UK. He also works as consultant for process optimisation and digital transformation. His approach to teaching emphasises the technology enabled simulated learning environment and practical implementation.

3:00 – 3:30 pm, December 20, Keynote X:

Dr. Md. Mazharul Habib
Director (R&D) and Centre Head
Bangladesh Industrial Technical Assistance Centre (BITAC)
Dhaka, Bangladesh

Dr. Md. Mazharul Habib is the Director (Research & Development) and Centre Head of the Bangladesh Industrial Technical Assistance Centre (BITAC), Dhaka, under the Ministry of Industries, Government of Bangladesh. With over two decades of experience, he has developed expertise in manufacturing management, industrial training, mechanical design, and production operations. Beginning his career at BITAC in 1999 as an Assistant Engineer, he advanced through the roles of Executive Engineer and Additional Director before assuming his current leadership position. Dr. Habib has led multidisciplinary teams of over 250 engineers and technicians in production control, die and mold manufacturing, and precision machining. He has coordinated major national projects serving sectors such as power, gas, fertilizer, railways, ceramics, and SMEs, driving process innovation and productivity across Bangladesh's industrial sector. He earned his Ph.D. from the University of the West of Scotland (UWS), focusing on the effectiveness of quality tools and techniques for introducing Total Quality Management (TQM) in the Ready-Made Garment (RMG) industry. He also holds an M.Sc. in Quality Management from UWS and a B.Sc. in Mechanical Engineering from KUET. Dr. Habib has completed several international trainings and seminars in Japan, India, Singapore, Italy, and Pakistan on die and mold design, CNC manufacturing, and industrial innovation. He has also served as an Associate Lecturer at UWS. He is a member of the Chartered Quality Institute (UK), IMechE (UK), IEB (Bangladesh), and AOM (USA), and a registered STEM Ambassador (UK).

3:30 – 4:00 pm, December 20, Keynote XI:

S.M. Tofayel Ahmad
Additional Director (ICT)
Bangladesh Bank
Dhaka, Bangladesh

S.M. Tofayel Ahmad is now working as Additional Director (ICT) at Bangladesh Bank, Dhaka. Before joining to Bangladesh bank he was a lecturer of CSE department of Northern University Bangladesh. He is the former Lecturer of Prime University Bangladesh, Ideal College (NU), New Model College (NU), etc. He is Former Assistant Programmer, MoICT.

He is now adjunct faculty member of Prime University, Northern University, NAPD, Bangladesh Bank Training Academy (BBTA), Bangladesh Institute of Bank Management (BIBM), ICAB – The Institute of Chartered Accountants of Bangladesh (ICAB), National Institute of Banking Technology (NIBT) and some other reputed Institutions in Bangladesh. He is one of the famous keynote speakers of Bangladesh for 4IR, CPS, Cloud Computing, Information Security, ICT Security Policy & Guidelines, etc. He has attended in many training, workshop on ICT Risk management, ICT Security, ICT Policy/Act/Guidelines, Cyber Security, BCR/DRP, IS Audit & Compliance, eCommerce, eGovernance, Embedded System, Reconfigurable computing, Instrumentation system in home and abroad.

Mr. Ahmad has written many books including three text books for BTEB. He has written (1) Multimedia and its Application (Text Book), BTEB (2) Data Structure And Algorithm (Text Book), BTEB, (3) Operating System & System Programming, (Text Book), BTEB, (4) Computer Engineering Knowledge, March, 2016, (5) Tautology (Guide Book) in 4 Vol. For CSE students. Mr. Ahmad has edited several ICT related guidelines, policies, frameworks for banking sector of Bangladesh including (1) "Guidelines on Cloud Computing for Banks, NBFI, PSO, PSP, MFS,etc., Vol 01, 2023"; (2)"Cyber Security Framework for for Banks, NBFI, PSO, PSP, MFS,etc."; (3) "Guideline on ICT Security For Banks and Non-Bank Financial Institutions, Bangladesh Bank"; (4) "ICT Security Policy for Bangladesh Bank & Some Commercial Banks, Bangladesh"; & BCP & DRP for Bangladesh Bank & Schedule Bank; (5)"Core Banking Solutions Features and Control Guidelines for Banks", etc.

Mr. Ahmad was awarded as the Best Track Paper of IEOM2012 Istanbul for one of his research papers. He is also awarded "Industry Solution Award" by IEOM2023 for contributing Cloud related activities in Bangladesh. He published 23 research papers in National/ International Journal/ Proceedings in IEEE, ACM, Scopus, IEOM, etc. on Embedded System, Reconfigurable Computing, Cloud Computing, Cyber Physical System, Security Operation Center (SOC), VAPT, Central Bank Digital Currency (CBDC), eCommerce /eBusiness, Financial Engineering and ICT Security & Risk management. He was nominated as Track Chair of Financial Engineering, E-Business/E-Service/e-Commerce/ Engineering Education, Cyber Security for many international conferences. Mr. S. M. Tofayel Ahmad is ISO Certified Lead Auditor (ISMS, ISO27001) & JICA-ITEE Certified Master Trainer (ToT). He was the Vice President of Bangladesh Computer Society (BCS) for 2012-2014 period. His main key work area is ICT Security Guideline & Policy, ICT Risk Management & Emergency Response, Ensuring compliance of Cloud Computing, 4IR, Cyber Security. Information System Audit & Compliance, Information Security/Cyber Security, Business Continuity and Disaster Recovery Management, eProcurement Management, Backup Management, Financial Engineering and providing ICT Security Training. ICT Audit, Inspection and Compliance.

He achieved M.Sc Engg. (ICT) from Bangladesh University of Engineering and Technology (BUET). He has also attended many professional courses in home and abroad including DLIS from University of Indonesia and DESOS from University Tunku Abdul Rahman (UTAR), Malaysia. He is one of the UNO, UNESCO and ICTP Scholars. Mr. Ahmad has visited many countries including India, Indonesia Malaysia, Singapore, Philippines, Turkey (Istanbul), Saudi Arabia, etc. for Academic, Training, Tour and Conference purposes.

Day 21 – December 21 (Sunday), 2025

9:30 -10:00 am, December 21 – Keynote XII:

Dr Ahm Shamsuzzoha
Associate Professor (Tenure track)
Industrial Systems Analytics
School of Technology and Innovations
Digital Economy Research Platform
University of Vaasa, Finland

Ahm Shamsuzzoha is working as an Associate Professor (Tenure track), Industrial Systems Analytics, School of Technology and Innovations, Digital Economy Research Platform, University of Vaasa, Finland since 01 June 2023. He is also working as an Adjunct Professor (Docent) at Department of Mechanical and Materials Engineering at University of Turku, Finland and Visiting Professor, Daffodil International University, Dhaka, Bangladesh. Dr. Shamsuzzoha worked as an Assistant Professor, Department of Mechanical and Industrial Engineering, Sultan Qaboos University, Muscat, Oman and Associate Professor at Department of Industrial and Production Engineering, Shahjalal University of Science and Technology, Bangladesh. He received his Bachelor of Science Degree in Mechanical Engineering from Rajshahi University of Science and Technology, Bangladesh, Master's Degree in Mechanical Engineering, University of Strathclyde, United Kingdom and Ph.D. in Industrial Engineering and Management, University of Vaasa, Finland. He published/accepted 104 refereed journal articles and 99 conference articles so far. His research interests are mainly focused on green and sustainable innovation, eco-friendly logistics and supply chain management, digitalization of entrepreneurship, etc.

10:00 – 10:30 am, December 21 – Keynote XIII:

Dr Muhammad Adnan
Lecturer in Project Management
Faculty of Computing, Engineering, and the Built Environment (CEBE)
Birmingham City University
Birmingham, UK

Presentation Title: Digital Manufacturing and The Synergy of Industrial Revolutions 4.0 to 6.0

Muhammad Adnan is an accomplished academician and researcher with over 11 years of experience in higher education and industry. He currently serves as a Lecturer in Project Management at the Faculty of Computing, Engineering, and the Built Environment (CEBE), Birmingham City University. Previously, he held the positions of Associate Professor and Head of the Department (HOD) at the National College of Business Administration & Economics (NCBA&E) Multan Sub-campus in Pakistan. Muhammad holds a Doctor of Philosophy (PhD) in Business Administration, a Master of Science (MSc) in Project Management, a Master of Business Administration (MBA), a Bachelor of Law (LLB), and a Bachelor of Science (BS) in Telecommunication Systems. He is also a certified Project Management Professional (PMP®), a certified PRINCE2 Agile® Practitioner, a certified Google Project Management, and has received an ISO 9001: 2015 QMS Lead Auditor training.

Throughout his career, Muhammad has demonstrated excellence in teaching, administration, strategic management, project/program planning and control, and project management. He has published over 30 research articles in well recognized national and international journals.

During his tenure at NCBA&E, Muhammad supervised more than 50 MPhil research students and served as a PhD Thesis Supervisor at Universidad Azteca, Mexico for international Pakistani students. His main research interests include Project Management, Human Resource Management, Leadership, Sustainability, Supply Chain Management, International Business Strategy & Management, and International Marketing.

10:30 – 11:00 am, December 21 – Keynote XIV:

Dr Shakil Quayes
Chair, Department of Economics
University of Massachusetts Lowell
Health & Social Sciences Building 339
Lowell, MA, USA

Shakil Quayes is a Professor at the University of Massachusetts Lowell based in Lowell, Massachusetts. Previously, Shakil was an Associate Professor at the University of Massachusetts Lowell. After earning his Ph.D., Shakil Quayes taught at Arizona State University, Georgia Southern University, Southeastern Louisiana University, and the Rochester Institute of Technology. He also worked for the Australia New Zealand Bank for a period of three years prior while pursuing his graduate studies. He has published 36 journal articles, and has presented research papers 36 national and international conferences. Education: Ph.D: Economics, University of Illinois, 2000, M.S.: Economics, University of Illinois Urbana Champaign, 1994 and B.S.S.; Economics, University of Dhaka, Bangladesh, 1986

11:00 – 11:30 am – Break

11:30 am – 12:00 pm, December 21 – Keynote XV:

Dr. Shameem Ahmed
Associate Professor
Department of Computer Science
Western Washington University
Bellingham, Washington, USA

Dr. Shameem Ahmed is an Associate Professor in the Department of Computer Science at Western Washington University (WWU). He co-founded WWU's Neurodiversity Center and established the NEAT (Next Generation Effective Affective Technology) research lab in 2016, alongside Dr. Moushumi Sharmin. NEAT is an interdisciplinary group focused on designing technology for neurodiverse individuals through Human-Computer Interaction (HCI) approaches. The lab has graduated 59 students, including neurodiverse individuals now working at top organizations like Microsoft, Amazon, and Boeing. Currently, Dr. Ahmed co-directs the NEAT lab, guiding research on using AI, wearables, and mobile technology to understand and address challenges faced by neurodiverse individuals. His work has been published in leading computer science conferences such as ACM SIGCHI, ACM CSCW, and ACM ASSETS. Dr. Ahmed earned his B.S. in Computer Science and Engineering from the Bangladesh University of Engineering and Technology (BUET), followed by two M.S. degrees in Math and Computer Science from Marquette University and Computer Science from the University of Illinois at Urbana-Champaign (UIUC). He completed his Ph.D. in Information Science at UIUC under the guidance of Professor Kate Williams. He joined WWU as an Assistant Professor in 2015.

12:00 – 12:30 pm, December 21 – Keynote XVI:

Brig Gen S M Lutfor Rahman
Vice Chancellor
Bangladesh Army University of Engineering Technology
Qadirabad Cantonment, Natore, Bangladesh

12:30 – 1:00 pm, December 21 – Keynote XVII:

Ferdous Sarwar, PhD
Professor, Department of Industrial & Production Engineering
Bangladesh University of Engineering and Technology
Dhaka 1000, Bangladesh

Dr. Ferdous Sarwar is a Professor at the Department of Industrial & Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh. His areas of expertise include: 12 years of engineering research experience, 10 years of engineering project management experience, 4 years of experience focused on manufacturing, research, and development of microelectronic components, hands-on experience in flip chip, SMT, MEMS, laser processing, photolithography, wire bonding, and die attach process, strong background in SPC techniques, DOE, APQP, QFD, FMEA, DMAIC & Six-Sigma methods and experience in selection and characterization of materials for microelectronics manufacturing such as TEM, SEM, FESEM and XRD. Dr. Sarwar has published papers in conferences and journals. He received Bachelor of Science (BS) and Master of Science (MS) in Industrial and Production Engineering from Bangladesh University of Engineering and Technology, Bangladesh and Doctor of Philosophy (PhD) in Manufacturing Engineering from North Dakota State University, USA.

Online Keynotes:

7:00 – 7:30 am, December 20, 2025 (Online Keynote I)

Dr Ahsan Habib, PhD
Professor, School of Planning, and Dept. of Civil and Resource Engineering (cross), Dalhousie University
Scientific Director, Climate Action Research for Transportation (CART) Network
Director, Dalhousie Transportation Collaboratory (DalTRAC)
Halifax, Canada

Ahsan Habib is a transportation professor at Dalhousie University. He received a PhD degree in civil engineering from the University of Toronto in 2009. He held a professional position at the Ministry of Transportation, Ontario (MTO) prior to joining Dalhousie University in 2010. He is the founder of the Dalhousie Transportation Collaboratory (DalTRAC) under the Leaders Opportunity Grant program of the Canada Foundation for Innovation (CFI). His research interests include travel behavior analysis, travel demand forecasting, and the microsimulation of urban systems. Dr. Habib believes multi-modal mobility options are the key to ensuring sustainability for Canadian cities. Major Grants: NSERC Discovery Grant, "Developing Longitudinal Bottom-up Models of Land Use, Transport and Energy Use" (PI: Dr. Habib), Nova Scotia Department of Health and Wellness, "Evaluation of Active Transportation Interventions in Nova Scotia Communities" (PI: Dr. Habib) Nova Scotia Department of Energy (NS DoE), "Nova Scotia Travel Activity

and Emission Study" (PI: Dr. Habib), Marine Environmental Observation, Prediction and Response Network, "Evacuating the Halifax Peninsula: Multidisciplinary Analysis and Training to Improve Evacuation from Coastal Floods" (PI: Dr. Quigley, Co-PI: Dr. Habib), SSHRC Insight Grants, "Adapting to Vulnerabilities in the Transportation System's Critical Infrastructure: Drawing Lessons for Risk Governance from the Redecking of the Macdonald Suspension Bridge in Halifax" (PI: Dr. Quigley, Co-PI: Dr Habib & Dr. Pelot [Dalhousie] and Dr. Grutz [Ryerson]). The Province of Nova Scotia, NS DoE, "Sustainable Transportation Indicators: Transportation Data Collection and Modelling", (PI: Dr. Habib). Leaders Opportunity Fund (LOF), Canada Foundation for Innovation (CFI), "Dalhousie Transportation Collaboratory (DalTRAC) Infrastructure Project", (funding partners: NSRIT and HRM), (PI: Dr. Habib) SSHRC Insight Grants, "Coordinating Land Use Planning in the Context of Multiple Plans", Awarded, (PI: Dr. Grant, [Dalhousie]; Co-PIs: Drs. Habib, Manuel & Rapaport [Dalhousie] and Dr. Filion [Waterloo]). Education: BURP, Bangladesh University of Engineering and Technology, MURP, Bangladesh University of Engineering and Technology MASc, University of Toronto and PhD, University of Toronto

7:30 – 8:00 am, December 20, 2025 (Online Keynote II)

Dr Shamim Ahamed, PhD
Assistant Professor
Controlled Environment Engineering Lab
Department of Biological and Agricultural Engineering
University of California, Davis, California, USA

Dr. Shamim Ahamed is currently working as an Assistant Professor in the Department of Biological and Agricultural Engineering at the University of California, Davis (UC Davis). Dr. Ahamed is leading the Controlled Environment Engineering lab at UC Davis and has been working on achieving net-zero food production with Controlled Environments Agricultural (CEA) systems like greenhouses, indoor vertical farming, and livestock barns. His research mainly focuses on thermal environment modeling, energy-efficient controls, and optimization of the heating, ventilation, air conditioning, dehumidification (HVACD), lighting, and hydroponic watering systems for precision control of indoor microclimates and root zone environments. His research area also spans automated fault detection and diagnosis of automatic control of HVACD systems and other control systems like nutrient management and CO_2 enrichment, as well as lighting. The research goal is to provide sustainable and green solutions to increase economic viability and decrease the environmental impact of indoor food production.

Education and Professional Preparation
Postdoctoral Fellow, Concordia University, Montreal, Canada, 2019-2020
Postdoctoral Fellow, City University of Hong Kong, Hong Kong, 2018-2019
Ph.D. in Environmental Engineering, University of Saskatchewan, 2018
Master's of Science in Farm Power and Machinery, Bangladesh Agricultural University (BAU), Bangladesh, 2012
Bachelor of Science in Agricultural Engineering, Bangladesh Agricultural University (BAU), Bangladesh, 2010

Submissions Received from Countries and Territories

1. Australia
2. Bangladesh
3. Canada
4. Finland
5. India
6. Indonesia
7. Iran
8. Japan
9. Malaysia
10. Peru
11. South Korea
12. Turkey
13. UAE
14. UK
15. USA

Panel of Sustainable Textiles: Engineering Smarter and Greener Fashions

4:30 – 6:00 pm, December 20, 2025 – Room 1

Moderator:

Md. Mostafizur Rahman
Associate professor & HoD
Department of Textile Engineering & Fashion Design
World University of Bangladesh
Uttara, Dhaka, Bangladesh

Mr. Md. Mostafizur Rahman currently serves as Associate Professor and Head of the Department of Textile Engineering and Fashion Design at the World University of Bangladesh (WUB), where he also leads the Curriculum Committee. He is presently pursuing his Ph.D. in Textile Engineering at the Dhaka University of Engineering and Technology (DUET). Mr. Rahman previously served as Chairman of the Program Self-Assessment Committee (2017–2018) under the Higher Education Quality Enhancement Project (HEQEP) of the University Grants Commission (UGC). He has extensive experience in designing and reviewing Outcome-Based Education (OBE) curricula, developing course profiles and assessment strategies, and overseeing faculty professional development initiatives. He has authored 29 peer-reviewed journal articles and multiple book chapters published by Wiley–Scrivener and Springer Nature. His research interests include smart textiles, wearable electronics, medicinal and antimicrobial textiles, ultraviolet protection coatings, and natural polymer-based composites. In his professional affiliations, Mr. Rahman is a member of both the Institute of Engineers, Bangladesh (IEB) and the Institute of Textile Engineers and Technologists (ITET). He began his career in 2008 as a senior executive in the Research and Development Department of Interstoff Apparels Ltd., Gazipur, before joining WUB as a Lecturer in 2010. Originally from Pabna, Bangladesh, Mr. Rahman has long been passionate about football, cricket, and badminton, and remains actively involved in community and social welfare organizations alongside his academic and professional commitments. Education/Academic Qualification: PhD in Textile Engineering (enrolled), Dhaka University of Engineering & Technology, M.Sc. in Textile Engineering, Mawlana Bhashani Science and Technology University and B.Sc. in Textile Technology, Ahsanullah University of Science & Technology.

Dr. Md. Abdul Hannan
Professor & Head
Department of Textile Engineering
Dhaka University of Engineering & Technology (DUET)

Dr. Md. Abdul Hannan is a Professor and the Head of the Department of Textile Engineering at Dhaka University of Engineering & Technology (DUET), Gazipur. He completed his PhD in Applied Chemistry and Chemical Engineering from the University of Dhaka in 2022. He obtained his Master's degree in Textile Technology from the University of Boras, Sweden in 2011, following his Bachelor's degree in Wet Processing Engineering from the College of Textile Technology, University of Dhaka in 1997. Dr. Hannan began his professional career as a Production Officer at Sinha Textile Mills Ltd. in 1999. Later, he served as an Instructor and Chief Instructor at government technical institutes before joining DUET as a faculty member. Over the years, he has held several academic positions including Assistant Professor and Associate Professor, before becoming a Professor. His research primarily focuses on sustainable textile processing, chemical-free wet processing, formaldehyde-free finishing, mordant-free natural dyeing, and the development of bio-composites using natural fibers. Dr. Hannan has published numerous research articles in renowned journals, particularly emphasizing environmentally friendly technologies in textile engineering. He has also contributed to research exploring the historical and cultural significance of muslin fabric in South Asia. His recent works involve improving the physical and mechanical properties of natural fibers like jute and pineapple leaf fiber for composite materials. Dr. Hannan is dedicated to developing green alternatives in textile pretreatment and finishing methods, aiming to reduce the environmental impact of textile manufacturing.

Dr. Md. Abdus Shahid
Professor, Department of Textile Engineering
Dhaka University of Engineering & Technology (DUET)

Dr. Md Abdus Shahid was born on October 10, 1976 in Pakundia, Kishoreganj. His father's name is Abdur Rouf and mother's name is Halima Khatun. Both his father and mother have departed this world. He passed SSC from Narandi High School, Pakundia in 1991 obtaining star mark; HSC from Govt. Science College, Dhaka in 1993 obtaining star mark and B.Sc in Textile Technology obtaining 1st class from College of Textile Technology, Dhaka (Now Bangladesh University of Textiles) in 1998. He completed PGD in Management in 2003 and MBA in 2007 from Bangladesh Open University. In 2012, he earned Ph.D in Physics from Jahangirnagar University, Savar, Dhaka 1342. Dr. Shahid started his career as a Production Officer in Givensee Spinning Mills Ltd. Monipur, Gazipur and worked there from 4 April 1999 to 16 August 2004; shifted to AGC Spinning Mills Ltd. Rupgonj, Narayangonj as a Manager (Production and Quality) and worked there from 17 August 2004 to 31 May 2006. After achieving above 7 years' industrial experience, he joined as a Lecturer in the Department of Textile Engineering (TE), Mawlana Bashani Science and Technology University, Tangail and continued from 1 June 2006 to 13 October 2008. Dr Shahid joined as a Lecturer in the Department of Textile Engineering, DUET by 14 October 2008. He joined as an Assistant Professor (TE) by 1 October 2009; Associate Professor (TE) by 31 October 20013; Professor (TE) by 19 June 2016 in DUET. Now he has been working as a Professor (Grade 2) from 22 February 2020 in the Department of TE, DUET. Dr Shahid served on various administrative positions in DUET such as Head, Department of Textile Engineering (19-01-2014 to 20-09-2021); Provost, Kazi Nazrul Islam Hall (28.01.16 to 14.02.2021); Member, Committee for Advanced Studies and Research (CASR), DUET (15.04.2018 to 15.06.2020); Associate Director, Students' Welfare (22.01.15 to 27.01.2016); Assistant Provost, Dr. F.R. Khan Hall (11.10.12 to 09.02.2015). Dr. Shahid is a syndicate member of Bangladesh University of Textiles (BUTEX) from December 20, 2023, to serve for two years. He also successfully performed his responsibilities as a BUTEX syndicate member from 2018 to 2021. He worked as an external member in different committee of BUTEX like as selection board (Professor & Associate Professor), Disciplinary committee etc. Now he is a Member of Selection Board for Lecturer & Assistant Professor, Department of Yarn Engineering, BUTEX (from 16-10-2021 to till). He also has been working as a member of selection board for Lecturer & Assistant Professor, Department of Textile Engineering, KUET, Khulna from 2016. He was a Chairman, Managing Committee of Dhaka Engineering University School from 19 December 2019 to 15 March 2022. He contributed in national level as an expert member of different government organization. He also has been serving as an external member for examination in different universities and colleges. He also conducted as an external member of different recruitment examination of Government and private organization with excellent reputation.

Dr. Ummul Khair Fatema
Professor & Head
Department of Environmental Science and Engineering (ESE)
Bangladesh University of Textiles (BUTEX)

Dr. Ummul Khair Fatema is the founder Chairman of DoESE. She is specialized in Chemical processing of Textile and environmental chemistry. She earned B.Sc. in Textile Technology (former BUTEX in 2000), M.Sc. (TUD, Germany in 2006 under DAAD scholarshiop) and Doctor of Engineering (Shinshu University, Japan in 2011 under Monbukagakusho Scholarship) with excellent grade. After serving several years in textile industry Dr. Fatema joined BUTEX in 2003. Her area of expertise is high performance & functional textiles materials, Polymer, Surface Engineering, Nanotechnology, Organ metallic Chemistry, Heat treatment, Coating Science etc. She taught different courses in undergraduate and post graduate levels. Dr. Ummul Khair Fatema also acts as Proctor & member of academic council of the university. Her current research focus is chemical modification of textile materials, , Textile process control, Textile chemical management, ECR, pollution control, sustainable resource management, climate change, environmental economics and policy, environmental health, environmental toxicology, water resource management, waste management, environmental valuation and impact assessment, etc. Dr. Fatema has currently working on higher education development and collaborative research program with several German universities under DAAD project. She enjoys sharing her knowledge and experience with students and takes pride in empowering the next generation of textile professionals with environmental sustainability.

Dr. Mohammad Abbas Uddin Shiyak
Associate Professor
Department of Dyes and Chemical Engineering
Bangladesh University of Textiles (BUTEX)

Dr Mohammad Abbas Uddin (Shiyak) is currently Assistant Professor at the Department of Dyes and Chemical Engineering, Bangladesh University of Textiles (BUTEX). He has completed his PhD from the University of Manchester, the UK, under Commonwealth Scholarship, MBA from Institute of Business Administration, University of Dhaka, Masters from Curtin University of technology with Australian Development Scholarship, and a graduate in Textile Technology from the College of Textile Technology, The University of Dhaka. He is a Chartered Fellow of The Textile Institute UK (CText FTI).

Dr Uddin has over 18 years of experience in textile and garment production, academic research and environmental consultancy. He is considered as a hybrid between technical excellence and business intellect. He is passionate about developing the industrial sector of Bangladesh organically through research and development, creating a new generation of social and environmental champions and liaise between industry and academia for future needs. Dr Uddin is one of the team members of 'creating a strategic vision for the university to be in the global education ranking.' He is also Assistant Coordinator for facilitating and developing skill-based learning materials for future skills in collaboration with Aspire to Innovate (a2i), and Assistant Director in Skills For Employment Investment Program (SEIP) project for developing skills for executives in the Textile and RMG sector to build world-class managers in association with Ministry of Finance, the Government of Bangladesh.

Dr Uddin is Co-author of the 'National Chemical Management Guideline for Textile and Apparel Industry' by the Ministry of Commerce and a taskforce member for the Ministry of Commerce. He co-authored a book titled 'Manual for Sludge Management in Bangladesh Textile Sector'. He is a certified trainer for 'Chemical Management' and 'Sludge Management' for Textile industry for GIZ and 'Dyehouse Management' by Textile Institute UK. He trained representatives from more than 100 textile factories, 20 government officials from the Department of Environment (DoE), brand representatives and service providers. He is an Associate Editor for Bangladesh Textile Today magazine and speaker and panellist in local and international seminars/workshops/conferences. He is also a reviewer of many journals in the textile field.

Before joining BUTEX in 2017, he led and responsible for various consultancy projects for water, energy, waste, wastewater, and sludge management and worked for various development organisations such as the German Development Agency (GIZ) Dhaka, International Finance Corporation (IFC)- The World Bank, Canadian High Commission, Dhaka, British High Commission Dhaka, The Nordic Chamber of Commerce Dhaka etc. He is currently working as an expert for GIZ FABRIC, STILE, other projects on chemical management, environmental assessment, sludge management, etc.

Panelists:

Dr. Ruhul A. Khan
Visiting Scholar (California, USA), PhD (England), Post Doc (Canada)
Director, Institute of Radiation and Polymer Technology
Bangladesh Atomic Energy Commission
Savar, Dhaka-1349, Bangladesh

At present, Dr. Ruhul Amin Khan is serving as the Director and Chief Scientific Officer, Institute of Radiation and Polymer Technology, Bangladesh Atomic Energy Commission (BAEC), Savar, Dhaka. He is serving at BAEC for 23 years. Dr. Khan served as the Visiting Scholar at the Department of Nuclear Science and Engineering, University of California, Berkeley, USA. Dr. Khan also served as the Visiting Scientist, University of British Columbia, Vancouver, Canada from November 2013 to November 2015. Dr. Khan obtained Ph.D on Fiber Reinforced Polymer Composites from the University of Nottingham, England in 2006. He completed two years Post Doctoral Fellowship from the University of Quebec, Montreal, Canada on Polymer Composite Materials.

Dr. Khan received Bachelor and Master Degrees from the Department of Applied Chemistry and Chemical Engineering, University of Dhaka, Bangladesh. He also conducted Advanced Research at the Tokyo Institute of Technology, Tokyo, Japan, under UNESCO Fellowship. Dr. Khan has 300+ international publications including several book chapters. He is also the Editorial Board Member of some international journals. Dr. Khan participated and presented his research in many international conferences around the world including USA, Canada, England, Australia, Japan, France, India, Austria, United Arab Emirates and Malaysia. He was the Panel Speaker on Canadian Bio-Pathways in PACWEST Conference, 2014, Alberta, Canada. Dr. Khan was the Keynote Speakers of many international conferences including Nano?Fibers 2012 International Conference, Tokyo, Japan. Dr. Khan is also serving as the Project Director of the Annual Development Program (ADP), Government of Bangladesh. Dr. Khan is the National Project Coordinator (NPC) of the IAEA sponsored Project, entiled: Promoting Food Irradiation by Electron Beam and X-Ray Technology to Enhance Food Safety, Security and Trade. Dr. Khan supervised more than two hundred Bachelor, Master, and PhD

students from Different Universities of Bangladesh. He is the member of syllabus committee of few Universities in Bangladesh. Dr. Khan also served as the Part Time Professor, Department of Nuclear Engineering, Military Institute of Science and Technology (MIST), Dhaka, Bangladesh.

Education/Academic Qualification
Bachelor Degrees from the Department of Applied Chemistry and Chemical Engineering, University of Dhaka, Bangladesh.
Master Degrees from the Department of Applied Chemistry and Chemical Engineering, University of Dhaka, Bangladesh
Ph.D on Fiber Reinforced Polymer Composites from the University of Nottingham, England.

Syful Alam Mallick
Professional Expert
Compliance and Sustainability

Syful Alam Mallick is a sustainability and compliance professional with over fourteen years of experience across the textile, apparel, leather, footwear, ceramic, and handicraft industries. With a background in Textile Engineering and advanced studies in Environmental Science, he currently serves as the Compliance Manager (South Asia) at Auchan Retail International, where he leads sustainability strategy, environmental and social compliance, certified material and supply-chain management, chemical management, climate-related initiatives, and traceability programs across Bangladesh, India, and Pakistan. Syful has successfully led multiple high-impact projects—including resource efficiency, energy transition/CO_2 reduction, traceability control, and supplier sustainability development—while managing several flagship CSR initiatives under the Auchan Foundation, such as workers' health insurance, food & nutrition programs, safe water and sanitation, and capacity-building for RMG nurses and paramedics. Earlier in his career, he worked with C&A, SGS, and leading textile manufacturers in roles focused on auditing, environmental assessment, technical quality systems, and R&D. He is trained in major global standards including SA8000, ISO 14001, HIGG FEM, ZDHC, BEPI, ICS Environment Audit, and fire safety systems. Driven by a commitment to ethical business, climate action, and responsible supply chains, Syful continues to contribute to industry transformation through training, project leadership, and collaborative sustainability initiatives.

Panel on Lean Six Sigma

3:00 – 4:30 pm, December 21, 2025 – Room 1
Panel Theme: Lean Six Sigma: Driving Sustainable Excellence in Industrial Operations

Panel Chair:

Prof. Md. Mamun Habib, Ph.D.
Professor and Head, Department of Management
School of Business & Entrepreneurship
Independent University, Bangladesh (IUB)
Dhaka, Bangladesh

Prof. Dr. Md. Mamun Habib is a Professor & Head of the Management Department at the School of Business & Entrepreneurship (SBE), Independent University, Bangladesh (IUB). He is a Visiting Scientist at the Dept. of Industrial Engineering of the University of Texas – Arlington, USA. He is also a Visiting Professor at Unirazak, Malaysia; UCSI, Malaysia; PUP, Philippines; Beijing Wuzi University, China; and Universitas Ciputra, Indonesia. He is involved in Ph.D. supervision locally and internationally. He supervises ten (10) Ph.D. scholars locally and globally and eleven (11) Ph.D. scholars have been awarded. He has over 22 years of experience in teaching, training, workshops, consultancy, and research. Dr. Habib has published about 250 research publications, including conference proceedings, journal articles, and book chapters/books. Among them, more than 80 articles are Web of Science and Scopus Indexed. He serves as the Editor-in-Chief/Editorial Board Member of more than 50 journals. He delivers Keynote speeches at 80+ international conferences in various countries. He conducted 200+ Webinars/Workshops locally and internationally. He accomplished his Ph.D. and M.S. with outstanding performance in Computer & Engineering Management (CEM) from Assumption University, Thailand. His core research areas are supply chain management, production & operations management, research methodology, and educational management. Prof. Habib is an active member of different professional organizations, including IEEE (Senior Member); IEOM (President, SCM Technical Division); Chartered Fellow (FCILT), and CILT International (UK) just to name a few. He is involved with the QS World University Ranking/Times Higher Education Ranking as an academician. He is also connected with the industry as a Consultant at AmCham (American Chamber

Speaker 1:

Professor Dr. Mohammad Faisal Ahammad
Head of International Business Department
University of Leeds, UK

Dr Mohammad Faisal Ahammad is a Professor of International Business & Management. He is an active researcher in the field of international business, particularly in the area of cross-border mergers and acquisitions and sustainability of MNEs and SMEs in South Asia including India & Bangladesh. Professor Ahammad is the Head of International Business Department at Leeds University Business School, University of Leeds, UK. Professor Ahammad is the Director of James E. Lynch India & South Asia Business Centre (ISABC). ISABC aims to contribute in achieving the Research and Innovation Strategy for the University of Leeds. In this context, ISABC intends to undertake inter and trans-disciplinary research in which expertise across disciplines will be integrated together in order to forge new understanding and new ways of addressing critical sustainability and grand challenges within the context of South Asia.

Professor Ahammad is an Associate Editor of Asian Business & Management. He is a member of the Editorial Board of Journal of World Business, British Journal of Management, Journal of Management Studies and Management International Review. He served as the lead guest editor for the special issues at International Journal of Human Resource Management, Human Resource Management Review, Thunderbird International Business Review, and International Studies in Management & Organisation. Dr Ahammad also served as co-guest editor for the special issues at Management International Review, Journal of Product Innovation Management and Technological Forecasting and Social Change.

Professor Ahammad won the "IBR 2017 Best paper Award" for his paper "Knowledge Transfer and Cross-Border Acquisition Performance - The impact of cultural distance and employee retention" published in International Business Review. The paper by Ahammad et al (2017) “Encouraging Environmental Sustainability through Gender” has been selected as the top 3 papers at Journal of Organisation Behaviour (Wiley) in 2017.

Professor Ahammad won the Inspirational Teaching Award at the Leeds University Business School Partnership Awards 2021 and was further commended at the University level, winning the Overall Leeds Partnership Award 2021 in the staff category. The Leeds Partnership Award is given to those have been deemed to have had an exceptional impact on University life. The award was announced on the Leeds University Union Twitter by the Vice-Chancellor of the University of Leeds. Prior to joining the University of Leeds, he worked as a Reader at Sheffield Hallam University, UK and as a Senior Lecturer at Nottingham Trent University, UK.

Speaker 2:

Mir Sharif Ahammad
Executive Director
Head of Commercial (Import & Export)
Walton Hi-Tech Industries PLC.
Dhaka, Bangladesh

Mir Sharif Ahammad, MCIPS, is a seasoned Supply Chain and Procurement Leader with over 18 years of progressive experience across Walton Hi-Tech Industries PLC and Orion Home Appliances Ltd. Specializing in global sourcing, strategic procurement, import–export management, and trade compliance, he has successfully led complex commercial operations involving large-scale machinery imports, multimodal logistics, and high-value supplier negotiations. Sharif is recognized for driving cost optimization, enhancing operational efficiency, and championing digital transformation through ERP integration and data-driven decision-making. His leadership style emphasizes ethics, cross-functional collaboration, and continuous capability development. With advanced qualifications including MCIPS, CSCM™, CSCL™, and an MBA, he consistently delivers strategic supply chain solutions that strengthen organizational competitiveness and support long-term business growth.

Speaker 3:

Professor Dr. Selim Ahmed
Dean, Faculty of Business Studies
World University of Bangladesh
Dhaka, Bangladesh

Dr. Selim Ahmed is a distinguished academic and business scholar, currently serving as Professor and Dean of the Faculty of Business Studies at the World University of Bangladesh (WUB). Renowned for his expertise in quality management, healthcare management, and service marketing, Dr. Ahmed has made significant contributions to both academia and industry through his extensive research and leadership.

Dr. Ahmed earned his Ph.D. in Business Administration from the International Islamic University Malaysia (IIUM) in 2016, with his doctoral research focusing on “Lean Six Sigma and its Effect on Quality Performance in Malaysian Hospitals.” He also holds a Master of Management degree from the same institution, completed in 2010. His academic journey has equipped him with a robust foundation in business administration, quality management, and operational excellence.

Dr. Ahmed’s professional career spans multiple continents and roles. Before joining WUB, he served as an Assistant Professor at the International University of Agadir (Universiapolis) in Morocco, where he honed his teaching and research skills in an international academic environment. At WUB, he leads the World School of Business, fostering academic excellence and shaping the next generation of business professionals in Bangladesh. His leadership is characterized by a commitment to advancing research and promoting innovative educational practices.

Dr. Ahmed is a prolific researcher with over 75 peer-reviewed publications, including four books, six book chapters, and more than 50 articles in top-tier international journals such as International Journal of Quality and Service Sciences, Humanomics, International Journal of Health Care Quality Assurance, and The TQM Journal. His work, which has garnered over 2,800 citations, covers topics such as Lean Six Sigma, healthcare management, service quality, digital transformation, organisational behaviour, and human resource management.

Dr. Ahmed’s research has been recognised internationally, earning him the “Best Paper” award at the 12th Annual World Congress of the Academy for Global Business Advancement (AGBA) Conference in 2015 and the “Top Reviewer Award” from Publons in 2018. He actively contributes to the academic community as a Section Editor for Health Service Insights (Sage Publications), a Consulting Editor for Hospital Topics (Taylor & Francis), and a reviewer for over 90 Scopus and Web of Science-indexed journals, having reviewed more than 350 manuscripts.

Dr. Ahmed’s work extends beyond academia into practical applications. His research on Lean Six Sigma has influenced quality performance practices in healthcare settings, particularly in Malaysia and Bangladesh. He has presented at numerous international conferences, including the 4th International Conference on Business and Economics at the University of Dhaka and the Lean Management Seminar in Sarawak, Malaysia. His studies on service quality and customer satisfaction in Islamic banking and microfinance have provided valuable insights for improving service delivery in Bangladesh’s financial sector. In addition to his research, Dr. Ahmed is deeply committed to education. At WUB, he mentors students and faculty, promoting a culture of research and innovation. His efforts have positioned the World School of Business as a hub for cutting-edge business education in Bangladesh.

Dr. Selim Ahmed’s contributions to business scholarship and education have had a profound impact on both academic and professional communities in Bangladesh and beyond. His dedication to quality education, rigorous research, and mentorship continues to inspire students, colleagues, and industry professionals. Through his leadership at WUB and his extensive body of work, Dr. Ahmed is shaping the future of business education and management practices in the region.

Committee

Conference Leadership

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Prof. Dr. Md. Mizanur Rahman, CEng, Professor, Mechatronics Engineering Department, World University of Bangladesh
Dr. Ahad Ali, Associate Professor and Director of Industrial Engineering Program, Lawrence Technological University, Southfield, Michigan, USA and CEO, IEOM Society

Program Chairs

Professor Don Reimer, Lawrence Technological University, Southfield, Michigan, USA
Dr. Ruhul A. Khan, Visiting Scholar (California, USA), PhD (England), Post Doc (Canada). Director, Institute of Radiation and Polymer Technology Bangladesh Atomic Energy Commission, Savar, Dhaka-1349, Bangladesh

Technical Chairs

Professor Dr. Selim Ahmed, Dean, Faculty of Business Studies, WUB.
Professor Dr. Qamruzzaman, Dear, Faculty of Science and Engineering, WUB
Prof. Md. Mamun Habib, Ph.D., Head, Department of Management, School of Business & Entrepreneurship, Independent University, Bangladesh

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Sawan Molla, Administrative Officer-II, WUB
Md Moniruzzaman, Sr. Network Engineer
Mohammad Mosharraf Hossain. Administrative Officer-Iii, WU

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Graduate Student Paper Competition Chair:	Dr. Swapan Kumar Sarkar, WUB
Doctoral Dissertation Competition Chair:	Prof Dr. Selim Ahmed, WUB
Master's Thesis Competition Chair:	Prof Dr. Mir Mohammad Azad, WUB
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AI-ML Competition Chair:	Kazi H. Robin, WUB
Human Factors and Ergo Competition Chair:	Dr. Leevesh Kumar, WUB
Simulation Competition Chair:	Prof. Dr. Mohammad Shahed Hasan Khan, RUET
High School STEM Competition Chair:	Professor Don Reimer, Lawrence Tech University, Michigan
Lean Six Sigma Competition Chair:	Prof Dr. Selim Ahmed, WUB
Supply Chain and Logistics Competition Chair:	Prof. Dr. Md Mamum Habib
Global Design Competition Chair:	Farhan Mahbub, WUB
Poster Competition Chair:	Engr. Zahid Ahsan –

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Prof. Dr. Mohammad Mashud, ME, KUET
Prof. Dr. Engr. Mostafizur Rahman, Northern University
Prof. Dr. Ziaur Rahman khan (EEE, BUET)

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BIM – Bangladesh Institute of Management: Dr. Engr. Md. Mamunur Rashid
BUET – Bangladesh University of Engineering and Technology: Syed Mithun Ali and Dr. B. M. Mainul Bari
BUTEX – Bangladesh University of Textiles: Mohammad Ali
CU – Chittagong University: Dr. Mohammad Jalal Ahammad
CUET – Chittagong University of Engineering & Technology: Sanjeeb Roy
DIU – Daffodil International University: Md. Mahbubul Haque and Md. Mominur Rahman
DUET – Dhaka University of Engineering & Technology: Professor Md. Anowar Hossain
EUB – European University of Bangladesh: Dr. Abu Taher
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KUET – Khulna University of Engineering & Technology: Professor Golam Kader
MIST – Military Institute of Science and Technology: Shahriar Tanvir Alam
NITER – National Institute of Textile Engineering and Research: Toufique Ahmed
RU – Rajshahi University: Dr. Mohammed Harunor Rashid
SUST – Shahjalal University of Science and Technology: Shanta Saha
WUB – World University Bangladesh: Dr. Md. Mizanur Rahman
BAUST – Bangladesh Army University of Science and Technology: Md. Ariful Alam
AIUB- American International University-Bangladesh: Mahamudul Hassan
BUFT – BGMEA University of Fashion & Technology: Arafat Sarkar
IUB – Independent University, Bangladesh: Prof. Md. Mamun Habib, Ph.D., Ms. Farzana Chowdhury and Ms. Seeratus Sabah

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A. K. Din Mohammad – Jahangirnagar University
Afshar Uddin Jubayer – AIUB
Alfi Shahriar – MGH Group
Aniruddha Roy Protya – BUET
Anup Karmakar – KUET
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Dip Das – World University of Bangladesh
Dongho Shin – My Paul School
Dr. D. K. Banwet, IIT-Delhi, India
Ishat Islam – Begum Rokeya University Rangpur
Istiaqe Ahamed – Khulna University of Engineering & Technology
Jahid Hasan Ashik – Khulna University of Engineering and Technology
Jeevan Kumar Goud Bandharapu - Independent Researcher/Data Scientist
Kazi Irteza Islam – Ahsanullah University of Science and Technology
Khaj Mohammod Riyad – BUFT
Lailo Akter – World University of Bangladesh
Leevesh Kumar – World University of Bangladesh
Marzan Kazi Rubye – American International University-Bangladesh
MD Faiaz Zaman Dehan – KUET
Md. Anisuzzaman – World University of Bangladesh
Md. Shoaib Mahmud – Military Institute of Science and Technology
Md. Sohanur Rahman – RUET
Md. Sourove Akther Momin – Walton Hi-Tech Ind. PLC, Bangladesh
Mehedi Hasan Santo – BGMEA University of Fashion & Technology
Miftaur Rahman Zisan – BUET
Mohammad Shbool – The University of Jordan
Dr. Monon Mahboob – American International University of Bangladesh
Mosiur Rahman – BUET
Muntasir Mustakin, Shahjalal University of Science and Technology, Sylhet
Musfique-us-Salehin Arnob – World University of Bangladesh
Nilufa Yeasmin – Shahjalal University of Science and Technology
Noureddine Mesboua – Université de Boumerdes, Algérie, Aïn Bessem, Algeria
Nur Beser – Marmara University
Nusrat Chowdhury – Bemidji State University
Ovejite Saha – World University of Bangladesh
Parvej Rahman Alif – Jashore University of Science and Technology
Prof Dr Abdur Rafiq EEE, KUET
Prof Dr. Abu Zakir Morshed CE, KUET
Prof. Dr. Abul Kalam Azad, Australia
Prof. Dr. Ashraful Ghani Bhuiyan EEE, KUET
Prof. Dr. Chu Chi Ming, UMS, Malaysia
Prof. Dr. Md. Saidur Rahman, Sunway University Malaysia
Prof. Dr. Mohammad Shahed Hasan Khan, RUET
Prof. Dr. Palash Chandra Karmaker, Gono Biswabidyalay
Prof. Md. Alamgir Hossain – BUFT
Quazi Monjur E-Elahi – BUET
Raja Manambedu Vijayakumar – Westcliff University
Saiful Islam Shakil – RUET
Salman Ibrahim Saad – Military Institute of Science and Technology
Samiur Rahman Wasi – International Islamic University Chittagong
Sangat Naik – ISRO
Sathya Amritha Kannan – RLE Technologies Pvt. Ltd.
Shahriar Habib – Khulna University of Engineering & Technology
Shibbir Ahmad – DUET
Shrabon Mitro – Rajshahi University of Engineering & Technology
Suhaila AlHashemi – SQU
Tejinder Singh Lakhwani – IIT Jodhpur
Turjo Das Dip – American International University-Bangladesh

Program Schedule

Saturday, December 20, 2025 – Morning Sessions

	Onsite at WUB, Dhaka	Virtual Zoom Room 9
8:00 – 17:00	Conference Registration	7:00 -8:00 am Online Keynotes 8:00 – 10:00 am Undergraduate Paper Competition sponsored by Siemens 10:00 – 12:00 Competitions 12:00 – 2:00 Engineering Education Competitions
9:00 – 9:30	Conference Opening Ceremony	
9:30 – 10:00	Keynote I: Brig Gen. A K M Khabirul Islam, PhD, Head, Department of Industrial and Production Engineering, Military Institute of Science and Technology (MIST), Mirpur Cantonment, Dhaka, Bangladesh	
10:00 – 10:30	Keynote II: Rear Admiral Dr. Khandakar Akhter Hossain, NUP, ndc, psc, PhD, Vice-Chancellor, Bangladesh Maritime University, Dhaka, Bangladesh	
10:30 – 11:00	Keynote III: Dr Navid Saleh, Jewel McAlister Smith Professor, Maseeh Department of Civil, Architectural and Environmental Engineering, University of Texas at Austin, USA	
11:00 – 11:30	Break – Coffee / Tea	
11:30-12:00	Keynote IV: Md Sourove Akther Momin, Senior Deputy Operative Director, Walton Hi-Tec,. Ind. PLC., Dhaka, Bangladesh	
12:00 – 12:30	Keynote V: Vaibhavi V. Chavan, Senior Lecturer in Project Management, Ravensbourne University London, Greenwich Peninsula, London, UK	
12:30 – 1:00	Keynote VI: Professor Javaid Butt, Professor of Manufacturing and Product Design, Birmingham City University, Birmingham, United Kingdom	

1:00 – 2:30 Lunch and Prayer Break
3:00 – 5:00 Poster Competition

Saturday, December 20, 2025 – Afternoon Parallel Sessions

Afternoon Keynotes

2:30 Keynote VII: Dr Md Ashikul Alam Khan, Program Director, MSc Management Suite, Graduate School of Management, Birmingham City University, UK
3:00 Keynote VIII: Dr Md. Mazharul Habib, Director (R&D) and Centre Head, Bangladesh Industrial Technical Assistance Centre (BITAC), Dhaka
3:30 Keynote IX: S.M. Tofayel Ahmad, Additional Director (ICT), Bangladesh Bank, Dhaka, Bangladesh

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Zoom Room 9
2:30 – 4:00	**Keynotes**	UG Paper Competition	SCM Competition	Lean Six Sigma Competition	Artificial Intelligence & Data Science	Sustainability	Manufacturing, Assembly and Design	Simulation Competition	Simulation, Optimization, Productivity
4:00 – 4:30	Break								
4:30 – 7:00	**Panel of Sustainable Textiles**	UG Research Competition	Grad Paper Competition	Supply Chain and Logistics	Artificial Intelligence	Sustainability, Green Systems	Human Factors and Ergonomics	Sustainability and Energy	Artificial Intelligence and Data Science
7:00 – 10:00									Industry 4.0

Sunday, December 21, 2025 – Morning Sessions

	Onsite at WUB, Dhaka	Virtual Zoom Room 9
8:00 – 17:00	**Registration**	8:00 – 10:00 am Sustainability, Green Systems and Energy 10:00 – 12:00 Supply Chain and Logistics 12:00 – 2:00 Human Factors and Ergonomics
10:00 – 10:30	Keynote X: Dr Ahm Shamsuzzoha, Associate Professor (Tenure track), Industrial Systems Analytics, University of Vaasa, Finland	
10:30 – 11:00	Keynote XI: Dr Shakil Quayes, Chair, Department of Economics, University of Massachusetts Lowell, Health & Social Sciences, Lowell, MA, USA	
11:00-11:30	Keynote XII: Dr Muhammad Adnan, Lecturer in Project Management, Faculty of Computing, Engineering, and the Built Environment (CEBE), Birmingham City University, Birmingham, UK	
11:30 – 12:00	Keynote XIII: Dr Shameem Ahmed, Associate Professor, Department of Computer Science, Western Washington University, Bellingham, Washington, USA	
12:00 – 12:30	Keynote XIV: Dr Ferdous Sarwar, PhD, Professor, Department of Industrial & Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh	

1:00 – 2:00 Prayer and Lunch Break
2:00 – 3:00 Awards Ceremony and Competition Winners Recognition

Sunday, December 21, 2025 – Afternoon Sessions

	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Zoom Room 9
3:00 – 4:30	**Panel: Lean Six Sigma**	Case Studies and Best Practices	Quality, Reliability and Maintenance	Automation and Robotics	Artificial Intelligence and Data Science	Sustainability, Green Systems and Energy	Lean Six Sigma	Simulation, Optimization Automation	Automation, Robotics and Autonomous
4:30 – 5:00	Break								
5:00 – 7:00	Simulation, Optimization and Productivity	Simulation, Optimization, Productivity	Sustainability and Green Systems	DM, Industry 4.0 and IoT	Engineering Management and PM	Simulation, Optimization, Productivity	Innovation and Manufacturing	Sustainability and Energy	Engineering Management and PM
7:00 – 10:00									Manufacturing and AI

Online Keynotes:
XV: Dr Ahsan Habib, PhD, Professor, School of Planning, and Dept. of Civil and Resource Engineering (cross), Dalhousie University, Canada
XVI: Dr Shamim Ahamed, Department of Biological and Agricultural Engineering, University of California, Davis, California, USA

8:00 am – 5:00 pm – Conference Registration at WUB Campus
8:00 – 10:00 am – First Virtual Session in Zoom Room 9

December 20, 2025 (Saturday) - Session: 9:00 am – 1:00 pm

Keynotes

9:00 – 9:30 Conference Opening Ceremony

9:30 – 10:00 Keynote I:

Brig Gen. A K M Khabirul Islam, PhD
Head, Department of Industrial and Production Engineering
Military Institute of Science and Technology (MIST), Mirpur Cantonment, Dhaka, Bangladesh

10:00 – 10:30 Keynote II:

Rear Admiral Dr. Khandakar Akhter Hossain, NUP, ndc, psc, PhD
Vice-Chancellor, Bangladesh Maritime University, Dhaka, Bangladesh

10:30 – 11:00 Keynote III:

Dr Navid Saleh
Jewel McAlister Smith Professor, Maseeh Department of Civil, Architectural and Environmental Engineering
University of Texas at Austin, USA

11:00 – 11:30 Break – Coffee / Tea

11:30-12:00 Keynote IV:

Md Sourove Akther Momin
Senior Deputy Operative Director
Walton Hi-Tec,. Ind. PLC., Dhaka, Bangladesh

12:00 – 12:30 Keynote V:

Vaibhavi V. Chavan
Senior Lecturer in Project Management
Ravensbourne University London, Greenwich Peninsula, London, UK

12:30 – 1:00 Keynote VI:

Professor Javaid Butt
Professor of Manufacturing and Product Design
Birmingham City University, Birmingham, UK

Virtual Sessions – December 20, 2025 - Morning

December 20, 2025 (Saturday) - Session: 8:00 – 10:00 am

8:00 – 10:00 am, Saturday, December 20 **Virtual Zoom Room 9**

Session Chair: Prof. Don Reimer, IEOM Society
Session Co-Chair: Dr. Mizanur Rahman, IEOM Australia

Undergraduate Student Paper Competition sponsored by Siemens

ID 57 Adaptive Sample-Level Framework Motivated by Distributionally Robust Optimization with Variance-Based Radius Assignment for Enhanced Neural Network Generalization Under Distribution Shift
Aheer Sravon, Devdyuti Mazumder, and Md. Ibrahim, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

ID 175 Improving Productive Efficiency Based on TPM and SMED in a Metalworking Company
Joe William Tirado-Chávez, Joice Corzo-Castro, Gino Viacava-Campos and Jorge Corzo-Chavez, Carrera de Ingeniería Industrial Universidad de Lima, Lima, Peru

ID 185 Productivity Improvement in the Bread-Making process in a food retail through lean tools
Luis Delgado and Jose García, Industrial Engineering Department, Universidad de Lima, Lima, Perú
Rafael Villanueva, Professor of Industrial Engineering, Universidad de Lima, Lima, Perú

ID 199 Increasing Productive Efficiency Through Lean Tools and Inventory Rotation Management in a Quinoa Exporting Company
Mario Alberto Chumbe-Sausa, Arelys Karen Casas-Apolinario, Gino Viacava-Campos and Jorge Antonio Corzo-Chavez, Carrera de Ingeniería Industrial Universidad de Lima, Lima, Peru

ID 122 Where Shadows Sing and The Rivers Shine
Rukaiya Reza, Bangladesh

ID 176 Numerical Performance Investigation of Modified NPR Bumper System
Akib Jabed Shovon, Md Arifuzzaman and Md Shariful Islam, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh

ID 43 Production Cost Minimization in Apparel Manufacturing
Shibbir Ahmad and Md. Kamruzzaman, Department of Mechanical Engineering, Dhaka University of Engineering and Technology (DUET), Dhaka, Bangladesh

ID 318 Transportation Model-based Import Cost Optimization for Bangladesh's Key Commodity Sectors Using Linear Programming Method
Arjun Deb Ricky, Saptaporna Dey, and Kazi Ashfaque Hossain, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 378 Effect of Wood Dust Particles on Physical and Mechanical Properties of Gypsum Particulate Composite
Nurul Hasnat, Joy Ganguly, Md. Shahin Alam, Md. Radwanul Kabir, and Dibakar Das, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 381 Enhancement of Mechanical Properties in Epoxy Composites via Bamboo and Glass Fiber Hybridization
Md. Radwanul Kabir, Joy Ganguly, Muhammad Jawad Zin Noor, Nurul Hasnat, Md. Shahin Alam, and Teertha Toran Chakraborty, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh

ID 481 A Case Study on Ag/Co Co-Doped TiO2 Nanoparticles: Green Synthesis, Doping Mechanisms, Photocatalysis, and Antibacterial Activity for Industrial Waste Water Remediation
Md. Farhan Jakib, Ishtiak Mahmud, Abdullah-Al-Mazed Khan, S. Mahmud Nabil, Jahidul Islam Anir and Jannat Hossain Arpa, Department of Materials Science & Engineering, Rajshahi University of Engineering and Technology (RUET), Rajshahi, Bangladesh

ID 466 Utilization of Agricultural Waste into Green Bio-Composite Materials: A Review
Jahidul Islam Anir, Department of Materials Science & Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh
Jannat Hossain Arpa, Department of Materials Science & Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Md. Farhan Jakib, Department of Materials Science & Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh
Mohammod Tasbi Khan, Department of Materials Science & Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Abdullah-Al-Mazed Khan, Lecturer, Department of Materials Science & Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh

ID 471 Optimizing Road Safety Management in Bangladesh: An Operations Management and Safe-System Approach
Md.Rafi, Undergraduate Student, Bangladesh University of Engineering Technology (BUET), Bangladesh
Asif Istiak Oly, Undergraduate Student, Bangladesh University of Engineering Technology (BUET), Bangladesh

ID 479 Heart Attack Frequencies Across Different Age Groups: A Statistical Analysis
Mohammad Tachvir Uddin, American International University Bangladesh, Bangladesh

December 20, 2025 (Saturday) - Session: 10:00 – 11:30 am

10:00 – 12:00, Saturday, December 20 **Virtual Zoom Room 9**

Session Chair: Prof. Don Reimer, IEOM Society
Session Co-Chair: Dr. Mizanur Rahman, IEOM Australia

Lean Six Sigma Competition

ID 264 Productivity improvement through the application of Lean Six Sigma tools in a non-alcoholic beverage company
Stefanía Carolina Huerta Sánchez, Industrial Engineering Department, Universidad de Lima, Lima, Perú
Cesar David Mesia Perez, Industrial Engineering Department, Universidad de Lima, Lima, Perú
Mr. Rafael Mauricio Villanueva Flores, Associate Professor, Industrial Engineering Department, Universidad de Lima, Lima, Perú

AI-ML Competition

ID 106 The Limited Predictive Power of Simple Demographic and Temporal Factors on WMSD Prevalence in Female Garment Workers: Implications for Ergonomic Design
Zannatul Mukarroma, Shahjalal University of Science and Technology, Bangladesh

ID 478 SmartMach: An AI-Driven Predictive Maintenance Platform
Nadia Akter Eshita and Iftikhar Hasan, Undergraduate Students, Department of Computer Science & Engineering, Green University of Bangladesh Dhaka, Bangladesh

Human Factors and Ergonomics Competition

ID 61 Determining and Prioritizing UX Factors in Corporate Sales Websites via Fuzzy FUCOM
Huseyin Selcuk Kilic, Zeynep Tugce Kalender and Nur Beser, Department of Industrial Engineering, Marmara University, Istanbul, Türkiye
Sevan Katrancioglu, Turkcell Technology, Istanbul, Türkiye

High School STEM Competition

ID 125 Social Media Sentiment Analysis of Carbon Neutrality and Single-Use Plastics Using Python
Youju Rim and Dongho Shin, Student and Professor, My Paul School, 12-11, Goesan-gun, Chungcheongbuk-do, Republic of Korea

ID 215 A Study on Predictive Modeling of Product Design Improvement Factors Through Review Data Analysis
Jaeyoon Song and Dongho Shin, Student and Professor, My Paul School, 12-11, 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 216 Analysis of Performance Changes in Knowledge Distillation Based on the Number of Teacher Models
Yuchan Lee and Dongho Shin, Student and Professor, My Paul School, 12-11, Goesan-gun, Chungcheongbuk-do, Republic of Korea

ID 217 Beta-Penalized PPO for Portfolio Optimization: KOSPI Top 30 Case Study
Joonseong Park and Dongho Shin, Graduated and Professor, My Paul School, 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

Undergraduate Research Competition

ID 76 A Multi-Agent Reinforcement Learning Approach for Evolutionary Games Using Proximal Policy Optimization
Mahamudul Hassan Siddique and Fahimul Haque, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

12:00 – 2:00, Saturday, December 20 **Virtual Zoom Room 9**

Session Chair: Professor Dr. Qutubuddin SM, PDA College of Engineering, India
Session Co-Chair: Dr. Mizanur Rahman, IEOM Australia

Master's Thesis Competition

ID 301 Wi-Fi-based Smart Motor Control: A Low-Cost IoT Solution for Real-Time Induction Motor Operation
Md. Naimuzzaman, Electrical and Electronic Engineering Department, Khulna University of Engineering and Technology, Khulna, Bangladesh
Md. Nur Kutubul Alam, Associate Professor, Department of Electrical and Electronic Engineering, Khulna University of Engineering and Technology

ID 330 Wi-Fi-based Smart Motor Control: A Low-Cost IoT Solution for Real-Time Induction Motor Operation
Mohammad Naimuzzaman, Khulna University of Engineering and Technology, Bangladesh

Supply Chain and Logistics Competition sponsored by aThingz

ID 388 Hybrid AI-IoT Integrated Framework for Sustainable Reverse Supply Chain Optimization: Advancing Pre-Consumer Circularity and Traceability in Manufacturing
Md. Sadman Sakib, Md. Tanvirul Islam, Md Ishrak Hossain, Saifullah Al-Mahmud Hossain, and Al Musavvir Sium, Department of Industrial and Production Engineering, Bangladesh University of Textiles, Dhaka, Bangladesh

Graduate Student Paper Competition sponsored by Eaton Corporation

ID 335 Recent Advances in Multi-Domain Machine Learning: A Comparative and Integrated Study of Financial, Environmental, Physiological, and Behavioral Prediction Models
Samsunnahar Chowdhury, Department of Computer Science, University of Chittagong, Chittagong, Bangladesh
Shahria Zaman, Associate Professor, Department of Computer Science, Noakhali Science and Technology University, Dhaka, Bangladesh

Engineering Education and Curriculum Improvement

ID 14 STEM Without Boundaries: Empowering Innovation Through Independent Learning
Ahmadur Rahman Choudhury, Resident of Florida, United States

ID 150 How Artificial Intelligence Could Transform Education in South Asia: Opportunities, Challenges, and Policy Implications—A Comprehensive Literature Review
Ismot Musharrath, National University, Bangladesh

Sustainability

ID 462 Functional Group Identification and Fuel Property Assessment of Tire Pyrolysis Oil Blended with Mahua Biodiesel
Md. Shawon Rahaman, Mechanical Engineering Department, Chittagong University of Engineering and Technology, Bangladesh
Lulu Gawhar, Mechanical Engineering Department, Chittagong University of Engineering and Technology, Bangladesh
Marwa Asgar Tanha, Mechanical Engineering Department, Chittagong University of Engineering and Technology, Banglades

Poster Presentation

3:00 – 5:00 pm, December 20, 2025 (Saturday)

Judges:

ID 8 Simulation-Driven Optimization of Pneumatic Actuation in Automated Packaging Lines
Md. Naimul Hasan Naim, Tamim Vhuiyan and Md. Abdur Jaher, Department of Industrial and Production Engineering, Jashore University of Science and Technology (JUST), Jashore, Bangladesh

ID 15 AI-Driven Digital Twin for Line Balancing and Dynamic Scheduling in Bangladesh's RMG Industry
S.M. Tanvir Ibne Arif Remal, Dept. of IPE, BUET, Bangladesh

ID 39 Impact of Lean Philosophy on Organizational Behavior
Most. Ishat Islam, Department of Management Studies, Begum Rokeya University, Rangpur, Bangladesh
Mohammad Rafiul Azam Khan, Professor, Department of Management Studies, Begum Rokeya University, Rangpur

ID 47 Enhancing Supply Chain Resilience through Strategic Risk Management: A Multidimensional Approach
Afshar Uddin Jubayer, [1]Department of Industrial and Production Engineering, American International University- Bangladesh (AIUB), Dhaka, Bangladesh

ID 48 Integrating Sustainability into Green Supply Chain Management: Strategies, Challenges, and Innovations
Afshar Uddin Jubayer, Department of Industrial and Production Engineering, American International University- Bangladesh (AIUB), Dhaka, Bangladesh

ID 72 Impact of Solar-Powered Hybrid Cold Storage Solutions on the Agricultural Supply Chain in Bangladesh
Fahim Ahmed, Md. Mahdi Islam and Kashbian Niloy, Department of Mechanical and Production Engineering, Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh

ID 75 Improving Disaster Relief Supply Chain Efficiency in Bangladesh
Fahim Ahmed, Md. Mahdi Islam and Kashbian Niloy, Department of Mechanical and Production Engineering, Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh

ID 83 Machine Learning-Driven Supply Chain Management for Perishable Goods: Demand, Inventory, Safety, and Sustainability Integration
Apurbo Chowdhury, Undergraduate Student, Department of Industrial and Production Engineering, American International University-Bangladesh, Dhaka, Bangladesh
Ahmad Zubayer Mostafa, Undergraduate Student, Department of Computer Science, American International University-Bangladesh, Dhaka, Bangladesh.
Rohit Roy, Undergraduate Student, Department of Computer Science, American International University-Bangladesh, Dhaka, Bangladesh.
Diya Banik, Undergraduate student, Department of IMK (Institute of Management in Kerala), University of Kerala, Kerala, India.
Md. Shihab Uddin, Undergraduate Student, Department of Computer Science, American International University-Bangladesh, Dhaka, Bangladesh

ID 112 Seismic Performance and Design Implications of Re-entrant Corners in RC School Buildings: A BNBC 2020 Perspective
Md. Robaet Hossain Khan, Research Assistant, Accident Research Institute (ARI), Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh
Tanvir Ahmed, Business Administration Department, World University of Bangladesh, Dhaka, Bangladesh
Tariqul Islam, Civil Engineering Department, World University of Bangladesh, Dhaka, Bangladesh
Md. Saykat Khan, Project Engineer, Lamex International, Mirpur DOHS, Dhaka, Bangladesh

ID 153 Camera-Based Gait Analysis using a Machine Learning Approach to Improve Patient Care
Iftekhar Basith, Sam Houston State University, United States

ID 162 Ergonomic Risk Assessment among the Construction Workers by Using Rapid Entire Body Assessment (REBA)
A.H. Ibn Moktadir, Post graduate student, MPH in Occupational Health and Safety, Bangladesh University of Health Sciences (BUHS), Dhaka, Bangladesh
Rabeya Yasmin, Assistant Professor, Occupational and Environmental Health, Bangladesh University of Health Sciences (BUHS), Dhaka, Bangladesh
Mostariya Shermim and Md. Tauhidul islam, Occupational Therapist, Centre for the rehabilitation of the Paralysed (CRP), Dhaka, Bangladesh

ID 164 Smart Farming Solutions: Machine Learning-Enabled Soil Profiling
A. K. Din Mohammad and A.K.M. Abedin Kader Safi and Farhana Chowdhury Ananda, Institute of Information Technology, Jahangirnagar University

Savar, Dhaka, Bangladesh

ID 165 Implementation of Deep CNN for Improved Facial Recognition in Crowded Environments
A. K. Din Mohammad and Farhana Chowdhury Ananda and A.K.M. Abedin Kader Safi, Institute of Information Technology, Jahangirnagar University Savar, Dhaka, Bangladesh

ID 213 Design and Development of a Smart Trimmer with Integrated Vacuum System for Real-Time Hair Collection
Tanzil Ahamed, Seemanta Sarker Pranta, Md. Ridwan Hossain, Md. Sajib Milki, and Syed Tahmid Jamil, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh

ID 224 Development of a Computational Model of Human Abdomen to Analyze Bioheat Transfer and Its Correlation with Fat Distribution
Saifur Rahman Tashki, Shahjalal University of Science and Technology, Bangladesh

ID 233 Effect of Back Pressure on Shock Wave Formation in a Conical CD Nozzle: Numerical and Analytical Study
MD Abdullah AR Rifat, Mechanical Engineering Department, Chittagong University of Engineering and Technology, Chattogram, Bangladesh

ID 260 Deploying Blockchain Technology to elevate Safety and Reliability in Wireless Communication: a review
A. K. Din Mohammad and Farhana Chowdhury Ananda and A.K.M. Abedin Kader Safi, Institute of Information Technology, Jahangirnagar University, Savar, Dhaka, Bangladesh

ID 262 Semi-Supervised Masked Autoencoders: Unlocking Vision Transformer Potential with Limited Data
Atik Faysal, Rowan University, United States

ID 324 Design and Development of a Post-Ignition Exhaust Purge System for Engine Emission Control
Md. Ashfaque Hossain Akand, Student, 5th Semester, Department of Automobile Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 332 Wearable Electronics: Revolutionizing Service & Healthcare Operations
Jannatul Sadia, Md. Sadnan Hossain, Md. Ratiful Islam Rimon and Yeasin Islam, Department of Business Studies. Department of Textile Engineering, Department of Civil Engineering, Bangladesh

ID 371 Benefits of NLP Tools for Speaking Development of Second Language Learners
S. M Mehedi Hasan, Anika Tahmina Chowdhury and Md. Shohaib Islam, Department of Computer Science, American International University-Bangladesh, Dhaka, Bangladesh
Iftekhar Mahmud, Department of English, American International University-Bangladesh, Dhaka, Bangladesh

ID 374 Air Pollution Prediction using ML
Tanjimul islam Shovon, World University of Bangladesh, Bangladesh

ID 386 Design and Development of a Smart Trimmer with Integrated Vacuum System for Real-Time Hair Collection
Rakibul Islam Rakib, Mahidul Islam Ayon, and Md. Sajib Milki, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh

ID 464 Bangladeshi Road Condition–Aware Smart Suspension Tuning System
Akram Hossain, Md. Ashfaque Hossain Akand, Ataur Rahman, and Md. Shafi Ullah, Department of Automobile Engineering (5th Semester), World University of Bangladesh Dhaka, Bangladesh

December 20, 2025 (Saturday) - Session: 2:30 – 4:00 pm

2:30 – 4:00 pm, Saturday, December 20 **Onsite Room 1**

Keynotes

2:30 Keynote VII:

Dr Md Ashikul Alam Khan
Program Director, MSc Management Suite, Graduate School of Management
Birmingham City University, UK

3:00 Keynote VIII:

Dr Md. Mazharul Habib
Director (R&D) and Centre Head
Bangladesh Industrial Technical Assistance Centre (BITAC)
Dhaka, Bangladesh

3:30 Keynote IX:

S.M. Tofayel Ahmad
Additional Director (ICT), Bangladesh Bank, Dhaka, Bangladesh

2:30 – 4:30 pm, Saturday, December 20 **Onsite Room 2**

Session Chair: Dr. Swapan Kumar Sarkar, (Chemical, WUB)
Session Co-Chair: Dr. Leevesh Kumar, Associate Professor, Department of Civil Engineering, WUB

Undergraduate Student Paper Competition sponsored by Siemens

ID 13 Predictive Modeling of Suicide Rates in Asia Using Socio-Economic Indicators and Machine Learning
Fahimul Haque, Mahamudul Hassan Siddique, Miftaur Rahman Zisan and Nafisa Mahbub, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

ID 104 Impact of China's Sectoral Stock Returns on Global Supply Chains: A Deep Learning Correlation Analysis
Asir Mubasshir Ishrak, Samiha Mumtaj and Abid Mahmood, Industrial and Production Engineering, Military Institute of Science and Technology Dhaka, Bangladesh
Mohammad Naim Uddin, Industrial and Production Engineering Department, Military Institute of Science and Technology, Dhaka, Bangladesh

ID 158 A Comparative Analysis of Machine Learning Models for Predictive Maintenance in the Ready-Made Garments (RMG) Industry
Samiur Rahman Wasi, Department of Computer Science and Engineering, International Islamic University Chittagong, Bangladesh

ID 188 System Dynamics-Based Circular Economy Model for Enhancing Environmental Sustainability in Bangladesh's Leather Industry
Abdullah Mohammad Khaled, Akteruzzaman Nadim, Chaity Dey, Md. Tanvir Hossain, Shahriar Islam Sium, Mahmudul Hasan Rohan, Md. Tanbir Hassan, Md Mahfuzur Rahman and Md. Muhtasim Fuad, Department of Industrial & Production Engineering, Jashore University of Science & Technology, Jessore-7408, Bangladesh

ID 191 Project and Supply Chain Optimization to Enhance Sustainability in AI-driven Industry 4.0: A Review of Recent Trends
Proma Acharjee, National Institute of Textile Engineering and Research, Bangladesh

ID 219 A Machine Learning Approach to Predict the Tensile Strength of Aluminum Alloys
Md. Tanbir Hasan, Mahmudul Hasan Rohan, Md Mahfuzur Rahman, Shahriar Islam Sium, Abdullah Mohammad Khaled, Md. Tanvir Hossain, Chaity Dey and Akteruzzaman Nadim, Department of Industrial & Production Engineering, Jashore University of Science & Technology, Jessore-7408, Bangladesh

ID 257 An IoT-Based Health Monitoring System with Real-Time Location Identification for Emergency Response
Ahmed Farhan, Rezwan Us Saleheen, Tamjid Hussein, and Nahiyan Al-Azad, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 304 A Comprehensive Review of the Formula 1 Drag Reduction System (DRS): From Aerodynamic Theory to On-Track Efficacy
Shahriar Islam Sium and Mahmudul Hasan Rohan, Department of Industrial & Production Engineering, Jashore University of Science and Technology, Jashore-7408, Bangladesh

ID 309 Mechanical Properties Analysis of Jute/E-Glass Fiber Reinforced Composite for Leaf Spring Application
Md. Hozzatul Islam, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Joy Ganguly, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Md. Radwanul Kabir, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Nurul Hasnat, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Nazmus Sakib, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Md Tanvir Ahmed, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Muhammad Jawad Zin Noor, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh

ID 328 Development of an Accelerometer-Based Hand Gesture-Controlled Robotic Vehicle
Ahmed Farhan, Enamul Hoq, Md Shariful Islam and Protik Barua, Department of Mechatronics Engineering, World University of Bangladesh Dhaka, Bangladesh

ID 339 Waste Heat Recovery Systems in Thermal Power Plants: Technologies, Efficiency, Eco-conscious and Sustainability
Mohammed Monimu Aban Haque, Hasibul Ahsan Abdullah and Mohammed Mohsiu Naban Haque, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 376 Forecasting Market Volatility via Social Media Sentiment: A Systematic Review of Machine Learning Approaches
Asir Mubasshir Ishrak, Tasfia Islam Tinni, Samiha Mumtaj and Monisha Rani Dey, Industrial and Production Engineering Department, Military Institute of Science and Technology, Dhaka, Bangladesh

ID 418 A Case Study on Ag/Co Co-Doped TiO2 Nanoparticles: Green Synthesis, Doping Mechanisms, Photocatalysis, and Antibacterial Activity for Industrial Wastewater Remediation
Md. Farhan Jakib, Ishtiak Mahmud, Abdullah-Al-Mazed Khan, S. Mahmud Nabil, Jahidul Islam Anir, Jannat Hossain Arpa, Md. Ahsan Tamjid Talha, and Taufique Sami, Department of Materials Science & Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

2:30 – 4:30 pm, Saturday, December 20 **Onsite Room 3**

Session Chair: Professor Dr. Saiful Alam, Department of Accounting and Information Systems, University of Dhaka
Session Co-Chair: Mr. Farhan Mahbub (Mechatronics, WUB)

Supply Chain and Logistics Competition sponsored by aThingz

ID 22 Omni-Channel Lot-Sizing with Split Fulfillment and Returns: A Mixed-Integer Linear Programming Model
Nusrat Tarin Chowdhury, Associate Professor, School of Technology, Art, and Design, Bemidji State University, Bemidji, MN, USA

ID 88 Optimization of Multi-Stage Multimodal Fixed Cost Transportation Network: A Case Study in A Paper Mill in Bangladesh
Md. Ashikur Rahman, Industrial and Production Engineering Department, Jashore University of Science and Technology, Jashore, Bangladesh
Fahim Fasial Tamim, Industrial and Production Engineering Department, Jashore University of Science and Technology, Jashore, Bangladesh
Tamim Vhuiyan, Industrial and Production Engineering Department, Jashore University of Science and Technology, Jashore, Bangladesh
Jamil Ahmed, Industrial and Production Engineering Department, Jashore University of Science and Technology, Jashore, Bangladesh

ID 118 Analysis of Supply Chain Risks by Structural Equation Model and Fuzzy AHP- an Empirical Approach
Altaf Hossain, Shezan Ahmed, Istiaqe Ahamed and Md. Rafiquzzaman, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 120 Framework for Supplier Selection Using MCDM Methods: A Case Study at a Cement Manufacturing Company
Mustafizur Rahman, Computational Science, The University of Texas at El Paso, Texas, USA
Sarojit Kumar Biswas and Md. Mahafuj Anam Murad, Department of Industrial and Production Engineering, Jashore University of Science and Technology, Jashore, Bangladesh

ID 124 Improving Supply Chain Effectiveness: An Analysis of Bangladesh's Pharmaceutical Industry
Mustafizur Rahman, Computational Science Program, The University of Texas at El Paso, Texas, USA
Md. Mahafuj Anam Murad, Sifat Ajmeer Haque and Sarojit Kumar Biswas, Department of Industrial and Production Engineering, Jashore University of Science and Technology, Jashore, Bangladesh
Tzu-Liang (Bill) Tseng, PhD, Industrial, Manufacturing, and Systems Engineering (IMSE), The University of Texas at El Paso, Texas, USA

ID 365 A Hybrid Variable Fixing Approach for Solving Capacitated Fixed Charge Transportation Problems (CFCTP): Combining Consensus Logic with k-NN
Md Asiful Islam, Dept. of Industrial and Production Engineering, Military Institute of Science and Technology (MIST), Mirpur 12, Dhaka, Bangladesh

ID 451 From AHP to DEA: A Comparative Study of MCDM Approaches for Automotive Supplier Sustainability
Md Hasibur Rahman, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Md. Fyzul Hasan, Department of Mechanical Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh
Md. Tariful Islam Satu, Department of Mechanical Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh

2:30 – 4:00 pm, Saturday, December 20 **Onsite Room 4**

Session Chair: Professor Dr. Selim Ahmed, Dean, Faculty of Business Studies, World University Bangladesh
Session Co-Chair: Issa Ahammad (Business, WUB)

Lean Six Sigma Competition

ID 170 Implementation of Lean Six Sigma Methodology & TQM Tools: A Case Study in Safety Shoe Footwear Industry of Bangladesh
Bayzid Mahmud, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
A H M Abdul Moudood, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Ali Alnoaimi, Directorate of Planning and Projects, Ministry of Foreign Affairs, Manama, Kingdom of Bahrain

ID 198 Improving Sigma Level in Wet Blue Leather Processing: Context of Bangladesh Tannery Industry
Tanvirul Islam, M.Sc. in Occupational and Process Safety (Ongoing), Chemical Engineering Department, Bangladesh University of Science and Technology, B.Sc. in Industrial and Production Engineering, Mechanical and Production Engineering Department, Ahsanullah University of Science & Technology, Dhaka, Bangladesh
Alfi Shahriar, Senior Executive, Supply Chain Planning (P&G and AstraZeneca Bangladesh), MGH Group, B.Sc. in Industrial and Production Engineering, Mechanical and Production Engineering Department, Ahsanullah University of Science & Technology, Dhaka, Bangladesh
Md. Shadman Hossain, Executive, Environment, Health and Safety, American and Efird Bd Ltd., B.Sc. in Industrial and Production Engineering Mechanical and Production Engineering Department, Ahsanullah University of Science & Technology, Dhaka, Bangladesh

ID 119 Six Sigma TQM Implementation for Defects Reduction & Sigma Level Improvement: A case study in Best Shirt Limited
Sohag Khan, Department of Industrial Engineering, BGMEA University of Fashion and Technology, Dhaka 1230, Bangladesh
Ahnaf Tahmid, Department of Industrial and Production Engineering, American International University Bangladesh (AIUB), Dhaka, Bangladesh
Md.Zannatun Nayeem, Department of Industrial Engineering, BGMEA University of Fashion and Technology, Dhaka 1230, Bangladesh
Md. Ariful Ferdous, Department of Industrial Engineering, BGMEA University of Fashion and Technology, Dhaka 1230, Bangladesh
Mohammod Riyad, Department of Industrial Engineering, BGMEA University of Fashion and Technology, Dhaka 1230, Bangladesh

ID 177 Defect Reduction and Efficiency Enhancement in a Knit Garment Factory using Lean Six sigma DMAIC Methodology
Md. Sajib Milki, Department of Industrial Engineering, BGMEA University of Fashion & Technology, BUFT, Dhaka-1230, Bangladesh
Mehedi Hasan Santo, Department of Industrial Engineering, BGMEA University of Fashion & Technology, BUFT, Dhaka-1230, Bangladesh

ID 184 Eliminating the Defects using DMAIC approach in Garment Industry
MD. Ridwan Hossain, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh

Minhazul Abedin, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Md. Sajib Milki, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Md. Ariful Ferdous, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh

ID 472 Implementation of Lean Six Sigma Methodology & TQM Tools: A Case Study in Safety Shoe Footwear Industry of Bangladesh
Syaidul Islam Emon, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Mohammed Jubaed, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh

2:30 – 4:00 pm, Saturday, December 20 Onsite Room 5

Session Chair: Prof Dr. A. K. M. Parvej Iqbal (Mechanical), IUBAT
Session Co-Chair: Kazi H. Robin (CSE, WUB)

Artificial Intelligence and Data Science

ID 152 Adaptive Beamforming in Terahertz 6G Networks Using Machine Learning Under Rain-Dense Atmospheric Conditions
Md.Sharif Uddin Shajib, Department of Electrical and Electronics, World University of Bangladesh, Dhaka, Bangladesh
Mohammad Quamruzzaman, Md. Riyad Tanshen, Farhana Latif and Mst Sumi Akter, Department of Electrical and Electronics, World University of Bangladesh, Dhaka, Bangladesh

ID 155 Classification of AI-based Attack Detection for 6G Network Slices
Mithun Pal and Fahrin Rahman, Department of Electrical and Electronic Engineering, European University of Bangladesh, Dhaka, Bangladesh

ID 168 Integrating Artificial Intelligence and Six Sigma DMAIC Using CART for Predictive Defect Control and Process Optimization in Apparel Manufacturing
Khaj Mohammod Riyad, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Sadik Hossain Siam, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Md Ariful Ferdous, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh

ID 173 Forecasting Rice Production in Bangladesh: A Comparative Analysis of Conventional And Hybrid Time Series Approach
Md.Sourove Akther Momin, Md. Rabiul Hasan and Salaha Uddin Chowdhury Shaju, Department of Statistics and Data Science, Jahangirnagar University, Dhaka, Bangladesh

ID 303 Application of Improved Particle Swarm Optimization (PSO) on A Gas Turbine Model
Tajwar Razib, Mechanical Engineering Department, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
Shakib Arafat Tapu, Mechanical Engineering Department, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 66 Revolutionizing Medical Waste Processing with Convolutional Neural Networks and Automated Sorting Systems
Bijoy Saha, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Anik Biswas, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

2:30 – 4:30 pm, Saturday, December 20 Onsite Room 6

Session Chair: Dr. Ruhul A. Khan, Visiting Scholar (California, USA), PhD (England), Post Doc (Canada), Director, Institute of Radiation and Polymer Technology, Bangladesh Atomic Energy Commission

Sustainability, Green Systems and Energy

ID 3 Neutrosophic AHP Method for Assessment of Renewable Energy Barriers and Policy Solutions for Sustainable Development in Bangladesh
Md. Mehedi Hasan Joy and Md. Nihad Ahmed Molla, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 4 Identifying the Critical Factors of Sustainable Automotive Manufacturing in Bangladesh Using the DEMATEL Process
Md. Mehedi Hasan Joy and Md. Nihad Ahmed Molla, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 17 Assessment of Global Ship Recycling Status and Future Prediction
Khandakar Akhter Hossain, Vice Chancellor, Bangladesh Maritime University, Dhaka, Bangladesh

ID 23 Exploring Sugarcane Husk Ash and Recycled Aggregates as Eco-Friendly Alternatives in Sustainable Concrete Production
Muzaddit Ul Mubin, Rasel Mahmud Mirda and Leevesh Kumar, Department of Civil Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 38 Achieving Sustainability & Efficiency in FMCG Manufacturing: A Stochastic Optimization Framework
Quazi Monjur E-Elahi, Ridika Islam, Jubayda Sultana Sezeel and Umme Ayesha Rahman, Department of Mechanical and Production Engineering Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh

ID 51 E-Waste Management Strategies using Interval-Valued Intuitionistic Fuzzy Sets (IVIFS)
Md. Atiur Rahman, Shrabon Mitro and Md. Mohibul Islam, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

2:30 – 4:00 pm, Saturday, December 20 **Onsite Room 7**

Session Chair: Dr. Hasanuzzaman Tushar, Associate Professor, School of Business, IUBAT
Session Co-Chair: Md. Mostafizur Rahman (WUB)

Manufacturing, Assembly and Design

ID 16 Analysis of Bangladesh Shipbuilding Status and Market Prediction In Contest Of World
Khandakar Akhter Hossain, Vice Chancellor, Bangladesh Maritime University, Dhaka, Bangladesh

ID 40 Utilizing a ductile damage criterion of steel for finite element analysis of a deep drawing process of a rectangular cup
Monon Mahboob, American International University of Bnagladesh, Bangladesh

ID 49 Interpretable Modeling of Flank Wear in Drilling Using Symbolic Regression and Ensemble Machine Learning Techniques
Fahimul Haque, Mahamudul Hassan Siddique and Miftaur Rahman Zisan, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

ID 50 Hybrid Modeling of Surface Roughness in Friction Drilling of Preheated A356 Aluminum Alloy Using RSM and Machine Learning
Fahimul Haque, Miftaur Rahman Zisan and Mahamudul Hassan Siddique, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

ID 71 Design and Optimization of a Lead Screw for Lathe Machine Applications
Ayman Khan, Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka 1208, Bangladesh
Tarek Ahmed, Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka 1208, Bangladesh
Nazmul Hasan Nahid, Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka 1208, Bangladesh
Ishtiyak Karim Ratul, Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka 1208, Bangladesh
Hasin Anjum Junayed, Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka 1208, Bangladesh

ID 211 Machine Learning-Based Prediction of 3D-Printed ABS Bending Behavior: Ensemble vs. Non-Ensemble Approaches
Nusrat Jahan Nabila, Department of Industrial Engineering & Management, Khulna University of Engineering & Technology, Khulna-, Bangladesh
Nazma Sultana, Associate Professor, Department of Industrial Engineering & Management, Khulna University of Engineering & Technology, Bangladesh
Soumik Saha, Department of Industrial Engineering & Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 225 Light Engineering Industry based on Export Items, Export Volume and Export Growth Rate
Proma Acharjee, National Institute of Textile Engineering and Research, Bangladesh

2:30 – 4:30 pm, Saturday, December 20 **Onsite Room 8**

Session Chair: Dr. Md. Ehasanul Haque, Associate Professor & Head, Department of Industrial & Production Engineering, American International University-Bangladesh
Session Co-Chair: Prof. Dr. Md. Shawkut Ali Khan, WUB

Simulation Competition

ID 2 Numerical Investigation of Double-Layered Sinusoidal Microchannel Heat Sinks: The Role of Porous Fins in Thermal Enhancement
Meherun Nesa Nisa, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna-9203, Bangladesh
Aniruddha Roy Protya, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
Khalid Mahmud Saifullah, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
Md Ashfak Hossain, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

ID 154 Design and Techno-Economic Analysis of a Grid-Connected Roof Top Solar PV System: A PV*SOL Based Case Study of KUET Medical Center
MD. Alifur Rahman, Department of Electrical and Electronic Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Aniruddha Roy Protya, Department of Mechanical Engineering, Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh
Md Ashfak Hossain, Department of Mechanical Engineering, Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh
Khalid Mahmud Saifullah, Department of Mechanical Engineering, Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh

Sustainability, Green Systems and Energy

ID 62 Electrode Structure and Its Influence on Commercial 18650 Lithium-Ion Battery Performance: A Comprehensive Review
Ahmad Abdullah Mujahid, Department of Mechanical Engineering, World University of Bangladesh, Dhaka-1230, Bangladesh
Abu Shadat Muhammad Sayem, Professor, Department of Mechanical Engineering, Chittagong University of Engineering & Technology (CUET) Chattogram, Bangladesh
Rupak Saha, Department of Mechanical Engineering, Chittagong University of Engineering and Technology, Chattogram-4349, Bangladesh

ID 77 Assessment of Groundwater Quality in selected areas of Bangladesh: A Water Quality Index Approach
Md Masum Billah, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh
Kazi Nur E Mustakim, Department of Civil Engineering, University of Texas at Arlington, Arlington, TX 76019, United States
Md. Tanvir Ahmed, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh
Rokhshana Parvin, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh

ID 429 Optimization and Feasibility of Renewable Energy Integration: A Study of Grid-Connected Solar PV at World University of Bangladesh
Kazi Estekhar Ahmed, Md. Nayeem Hasan Mallick, Abdulla Ibna Karim, and Md. Sharif Uddin Shajib, Department of Electrical and Electronics, World University of Bangladesh, Dhaka University of Engineering & Technology, Dhaka, Bangladesh

2:30 – 4:00 pm, Saturday, December 20 **Virtual Zoom Room 9**

Session Chair: Tahmina Kabir, BUET, Bangladesh
Session Co-Chair: Dr. Mizanur Rahman, IEOM Australia

Simulation, Optimization and Productivity Improvement

ID 12 Study of Microchannel Machining Rates in Aerospace Grade Aluminum by using CAD-CAM Integration System
Md Bahar Uddin, Department of Mechanical and Aerospace Engineering, Missouri University of Science and Technology, Rolla, MO 65401, USA
Abdul Halim, Lecturer, Department of Industrial and Production Engineering, Bangladesh Army University of Science and Technology, Saidpur Cantonment, Saidpur-5310, Bangladesh

ID 20 Multivariate Analysis of Interaction Effects in Single-Factory Apparel Production: Efficiency, Overtime, and SMV
Muntasir Mustakin, Shamsujjaman Rupok and Dewan Reza Hamid Karzai, Department of Industrial and Production Engineering, Shahjalal University of Science & Technology, Sylhet-3114, Bangladesh

ID 36 Performance analysis of the supply chain production system applying Monte Carlo simulation integrated with linear regression
Md. Hasan Ali, Marzan Hasan Nayeem, and Md. Sheikhsadi Dewan, Department of Industrial and Production Engineering, National Institute of Textile Engineering & Research (NITER), Dhaka, Bangladesh

ID 93 A Hybrid Learning-Interference Model for the Dual-Resource Constrained Flexible Job Shop Scheduling Problem
Mingjuan Zhao and Koichi Nakade, Department of Systems Management and Engineering, Nagoya Institute of Technology, Nagoya, Aichi, Japan

ID 160 Optimizing Hospital Bed Allocation and Treatment Scheduling through a Linear Programming Model: Enhancing Capacity Utilization and Reducing Patient Waiting Time
Mosiur Rahmana, Mahmudur Rahman Tasinb and Shihab Sadman Rahic, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

ID 237 CFD Analysis of the Effect of Plain Flap Deflection on NACA 2415 with A Leading-Edge Slat at Different Angles of Attack
Tahmina Kabir, BUET, Bangladesh

ID 261 Optimizing Hospital Bed Allocation and Treatment Scheduling through a Linear Programming Model: Enhancing Capacity Utilization and Reducing Patient Waiting Time
Mosiur Rahmana, Mahmudur Rahman Tasinb and Shihab Sadman Rahic, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

ID 310 Optimizing Outpatient Appointment Schedules with Particle Swarm Optimization: A Deterministic Modeling Approach
Kazi Md. Tanvir Anzum and Md. Saiful Islam, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 325 Effect of Notch Geometry on Vortex-Induced Vibration: A Numerical Study
Muhammad Jawad Zin Noor, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh
Joy Ganguly, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh
Teertha Toran Chakraborty, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh

December 20, 2025 (Saturday) - Session: 4:30 – 7:00 pm

4:30 – 6:00 pm, Saturday, December 20 **Onsite Room 1**

Panel Textile

Panel of Sustainable Textiles: Engineering Smarter, Greener Operations

Moderator:

Md. Mostafizur Rahman
Associate professor & HoD
Department of Textile Engineering & Fashion Design
World University of Bangladesh
Uttara, Dhaka, Bangladesh

Panelists:

Dr. Md. Abdul Hannan
Professor & Head, Department of Textile Engineering
Dhaka University of Engineering & Technology

Dr. Md. Abdus Shahid
Professor, Department of Textile Engineering
Dhaka University of Engineering & Technology

Dr. Ummul Khair Fatema
Professor & Head
Department of Environmental Science and Engineering (ESE)
Bangladesh University of Textiles (BUTEX)

Dr. Mohammad Abbas Uddin Shiyak
Associate Professor
Department of Dyes and Chemical Engineering
Bangladesh University of Textiles

Dr. Ruhul A. Khan
Visiting Scholar (California, USA), PhD (England), Post Doc (Canada)
DIRECTOR, Institute of Radiation and Polymer Technology
Bangladesh Atomic Energy Commission, Savar, Dhaka-1349, Bangladesh

Syful Alam Mallick
Regional Compliance Manager (Bangladesh,

4:30 – 7:00 pm, Saturday, December 20 **Onsite Room 2**

Session Chair: Dr. Swapan Kumar Sarkar, (Chemical, WUB)
Session Co-Chair: Dr. Leevesh Kumar, Associate Professor, Department of Civil Engineering, WUB

Undergraduate Research Competition sponsored by Daikin Applied

ID 113 GIS-Based Assessment of Environmental Impacts of Industrial Expansion: A Case Study of Land Degradation in Hamayetpur, Bangladesh
Mozakkir Azad, Department of Environmental Science and Engineering, Jatiya Kabi Kazi Nazrul Islam University, Mymensingh-2224, Bangladesh
Akifa Monjur, Department of Urban and Regional Planning, Chittagong University of Engineering and Technology (CUET), Chattogram, Bangladesh
Tasmia Sharmin Rimi, Department of Civil and Environmental Engineering, Islamic University of Technology (IUT), Bangladesh
Mofassir Azad, Department of Applied Mathematics, University of Rajshahi, Rajshahi-6205, Bangladesh
Maheya Yeasmin Mithe, Patuakhali Science and Technology University, Patuakhali-8602, Bangladesh

ID 161 Mechanical Characterization of Sugarcane-based Natural Fiber Composites Using Machine learning and Experimental Techniques
Farhan Sadik, Md Rois Uddin, Arif Raogir and Sehrish Taazwar Khan, Industrial & Production Engineering Department, American International University–Bangladesh (AIUB), Dhaka, Bangladesh
Mohammad Tauhiduzzaman, PhD, Assistant Professor, Industrial & Production Engineering Department, American International University–Bangladesh (AIUB), Dhaka, Bangladesh

ID 380 Moringa Oleifera (Drumstick) Fiber Reinforced Epoxy Composite – A Mechanical Characterization Study
Joy Ganguly, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Md. Radwanul Kabir, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Nurul Hasnat, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Muhammad Jawad Zin Noor, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Nazmus Sakib, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Md Tanvir Ahmed, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh

ID 194 Challenges and Opportunities in Plastic Pyrolysis: A Review on Feedstock Effects, Catalysis, and Engine Fuel Viability
Khalid Mahmud Saifullah, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
Aniruddha Roy Protya, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
Md Ashfak Hossain, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
MD. Alifur Rahman, Department of Electrical and Electronic Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

Doctoral Dissertation Competition sponsored by Airbus

ID 313 Safety Leadership and Organizational Performance: A Study on Safety Practices and Employee Well-Being at Bangladesh Space Research and Remote Sensing Organization (SPARRSO)
Md Mahmudul Haque, Bangladesh Space Research and Remote Sensing Organization (SPARRSO), Bangladesh

Senior Design Project / FYP Competition

ID 465 Conceptual System Design of a Mother–Daughter Lunar Rover for South-Polar Exploration: Dust-Resilient Mobility, Uneven Terrain Navigation, and Multi-Stage Sample Collection
Md. Ibrahim Hossain Khan, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh
Istiak Rahman Shourov, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh
Rahin Intesar Nafim, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh
Probak Hasan Arnob, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh
Safwan Siddiquee, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh
Samiul Alam Munna, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh
Tahmid Kawser Washee, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh
Md. Hasnat Jinnurain Mayaz, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh
Tasfia Akter Ridita, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh

Ahmed Intekhab Rohan, Department of Mechanical & Production Engineering, Islamic University of Technology, Gazipur, Bangladesh

Human Factors and Ergonomics Competition

ID 5 Postural Risk Analysis of Workers in Local Furniture Making Workshops using RULA and CATIA-based Digital Human Modeling
Jahid Hasan, Md. Sumon Rahman, Md. Masum Billah, Md. Mahafuj Anam Murad, Shoyeb Muhammad and Assaduzzaman Arif, Department of Industrial and Production Engineering, Jashore University of Science and Technology, Jashore-7408, Bangladesh

ID 98 Study of Pathao Riders' Musculoskeletal Discomfort in Relation to Motorcycle Ergonomic Design in Bangladesh
Mohammad Iqbal, Aninda Saha, Md. Musfik Ahammed, Raktim Madhu, Intisar Ahmed Chowdhury and Qawsar Ali, Department of Industrial & Production Engineering, Shahjalal University of Science & Technology, Sylhet, Bangladesh

ID 206 Gender, Climate Vulnerability, and Technology Adoption: An Assessment of Agricultural Microenterprises in Rural Bangladesh
Aniruddha Roy Protya, Department of Mechanical Engineering, Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh
Sujan Banik, Department of Mechanical Engineering, Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh
Provat Kumar Saha, Department of Civil and Environmental Engineering, University of Washington, Seattle, Washington, United States
Sabiha Yeasmin Rosy, Department of Women and Gender Studies, University of Dhaka, Dhaka-1000, Bangladesh
Mohammad Golam Kibria, Department of Soil Science, Bangladesh Agricultural University, Mymensingh, Bangladesh
Yushiou Tsai, The ByWater Institute, Tulane University, 6823 St. Charles Avenue, New Orleans, LA, USA
Md Aman Uddin, Department of Mechanical Engineering, Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh

ID 383 Influence of Social Media Algorithms on Young People's Decision-Making
Jahid Hasan Shuvo, Department of Marketing, Independent University, Bangladesh
Farhan Rahman Fahim, Department of Management Information System, Independent University, Bangladesh
Md. Fahim Bin Amin, Department of Finance, Independent University, Bangladesh

ID 476 Design of Workstation by Applying Ergonomic Principles
Md Fardin Islam, Emonur Rahman Fahim, Md Hasin Abrar Soumik, Praddut Kuri Pretom and Dr. Md. Sanowar Hossain, Department of Industrial and Production Engineering, Rajshahi University of Engineering and Technology, Rajshahi-6204, Bangladesh

4:30 – 7:00 pm, Saturday, December 20 **Onsite Room 3**

Session Chair: Prof. Mohammad Mashud (ME, KUET)
Session Co-Chair: Sagor Kumar Podder (CE WUB)

Graduate Student Paper Competition sponsored by Eaton Corporation

ID 105 Spatiotemporal GIS-Based Assessment of Textile Industrial Wastewater Impacts on Land Use, Vegetation Health, and Urban Heat Dynamics in Valuka, Bangladesh
Mozakkir Azad, Department of Environmental Science and Engineering, Jatiya Kabi Kazi Nazrul Islam University, Mymensingh-2224, Bangladesh
Fatima Akteri, Department of Geography and Environment, Begum Badrunnesa Government Girls College Dhaka, Bangladesh
Mofassir Azad, Department of Applied Mathematics, University of Rajshahi, Rajshahi-6205, Bangladesh
Md. Yousuf Nayeem, Department of Environmental Science and Engineering, Jatiya Kabi Kazi Nazrul Islam University, Mymensingh, Bangladesh
Shahrin Akhter, Department of geography, Jagannath University, Bangladesh

ID 180 Training Needs Assessment of Traffic Education, Road Safety Awareness, and Compliance Behavior Among BIM Participants
A. H. M. Rezwanul Haque, Student of PGDHRM Program, BIM, Dhaka, Bangladesh
Md. Mamunur Rashid, Director, IQAC and Progam Director, DPQM, and Head, Production Management Division, Bangladesh Institute of Management (Dhaka Campus), Bangladesh

ID 192 Deploying Rooftop Solar PV System in an Educational Institution of Rural Bangladesh: A Software Based Case Study
Aniruddha Roy Protya, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
Md Ashfak Hossain, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
Khalid Mahmud Saifullah, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
MD. Alifur Rahman, Department of Electrical and Electronic Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Md Samraj Rahman, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna-9203, Bangladesh

ID 196 Safety Induction and Onboarding Practices and Their Influence on Accident Prevention: A Study on Cube Holdings Ltd.
Tahmina Islam, Student of PGDHRM Program
Md. Mamunur Rashid, Director, IQAC and Progam Director, DPQM, and Head, Production Management Division, Bangladesh Institute of Management (Dhaka Campus), Bangladesh

ID 201 Occupational Mental Health& Disease: A case study on workplace stress and its effect on employee Productivity at Azim And Sons (Pvt.) Ltd.
Aktarun Naher, BIM, Bangladesh

ID 203 Occupational Health and Safety Measures with physical, mental, social & spiritual health: A study on Titas Gas Transmission and Distribution PLC (TGTDPCL)
Md. Sharif Sarker, Student of PGDHRM Program
Md. Mamunur Rashid, Director, IQAC and Program Director, DPQM, and Head, Production Management Division, Bangladesh Institute of Management (Dhaka Campus), Bangladesh

ID 204 Research Proposal on Future of Industrial Health and Safety in the Age of Automation and AI: HR Challenges and Opportunities at Runner Group
Sumayta Islam, BIM, Bangladesh

ID 218 Research proposal on Safety Awareness Training: Enhancing Workplace Safety Practices through Employee Education and Engagement at Crony Group
Towfiqur Rahman, BIM, Bangladesh

ID 239 Safety measures of Titas Gas Transmission & Distribution PLC
Md Ashaduzzaman Azad, Student of PGDHRM Program
Md. Mamunur Rashid, Director, IQAC and Program Director, DPQM, and Head, Production Management Division, Bangladesh Institute of Management (Dhaka Campus), Bangladesh

ID 263 Strategic Human Resource Management (SHRM) and Workplace Safety: A Case Study On Fakhruddin Textile Mills Ltd at Gazipur District
Kaniz Fatema, Student of PGDHRM Program, BIM, Dhaka, Bangladesh
Md. Mamunur Rashid, Director, IQAC and Program Director, DPQM and Head, Production Management Division, Bangladesh Institute of Management (Dhaka Campus), Bangladesh

ID 331 A Review on Yaw Angle Aerodynamics of NACA0015 Aerofoil Under Transient RANS Modeling for Formula Student Vehicles
Jowad Md Madha, Institute for Flow in Additively Manufactured Porous Media, Heilbronn University, Germany
Institute of Education and Research (IER), University of Dhaka, Bangladesh
Anika Nawar, Institute of Education and Research (IER), University of Dhaka, Dhaka, Bangladesh
Wenbo Yang, Institute of Engineering Thermophysics, CAS, VS, Department of Energy and Power, Tsinghua University, Beijing, China

ID 340 VigiTrak: Vision-Based Terrain-Adaptive Surveillance Robot with GPS Tracking
Enamul Hoq, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Mohammad Quamruzzaman, Department of Electrical and Electronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Md. Mizanur Rahman, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Rezwan – Us – Saleheen, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Md Shariful Islam, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 446 Electromagnetic Pulse Energy and Impact of EMP Environment
Md. Siyer, Shamol Chandra Barman, Md. Manik Hossain, and Md. Mizanur Rahman, Mechatronics Engineering Department, World University of Bangladesh, Dhaka, Bangladesh

4:30 – 7:00 pm, Saturday, December 20 **Onsite Room 4**

Session Chair: Shoyeb Muhammad, Gunma University, Kiryu, Gunma, Japan
Session Co-Chair: Prof. Dr. Md. Shawkut Ali Khan, WUB

Supply Chain and Logistics

ID 46 Artificial Intelligence and Machine Learning: Revolutionizing Supply Chain Decision-Making and Operations
Afshar Uddin Jubayer, Department of Industrial and Production Engineering, American International University- Bangladesh (AIUB), Dhaka, Bangladesh

ID 60 Optimizing E-Commerce Logistics in Emerging Markets: A Comparative Evaluation of Fulfillment by DARAZ (FBD) and Personnel Based Model Using Value Stream Mapping and Fuzzy Delphi Analysis
Anoy Kumar Das, Samiul Alim Sadik, Shantonu Nonda and Md. Asadujjaman, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

ID 87 Barriers to Digital Supply Chain Transformation: Identification and Prioritization through Fuzzy Best–Worst Method
Md. Tanjid Hossen Irfan, Shahriar Hasan Ratul, Jahid Hasan Ashik and Md. Saiful Islam Seam, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna 9203, Bangladesh

ID 90 A Comparative Study of Genetic Algorithm and Multi-Agent Dueling DQN for a Complex Deterministic VRP
Mahamudul Hassan Siddique, Minhaz Ahmed Likhon and Md. Ahabab Ul Haq, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 94 Barriers to Blockchain Adoption in Supply Chain Management in The RMG Sector of Bangladesh
Atika Ashraf Akhi, Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Razoan Islam Zihad, Industrial & Production Engineering, Jashore University of Science & Technology, Jashore-7408, Bangladesh
Khaleda Yeasmin Mim, Electrical and Electronic Engineering, Jashore University of Science & Technology, Jashore-7408, Bangladesh
Md. Nazmus Sakib, Computer Science and Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
Shoyeb Muhammad, Gunma University, Kiryu, Gunma, Japan

ID 221 Integrating Digital Product Passport for Optimal Supplier and Reverse-Logistics Hub Co-Selection in Bangladesh's Circular Textiles Supply Chain
Nasif Morshed, Department of Industrial Engineering and Management, Khulna University of Engineering and Technology, Khulna, Bangladesh
Md. Foysal Uddin, Department of Industrial and Production Engineering, Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh
Shezan Ahmed, Department of Industrial Engineering and Management, Khulna University of Engineering and Technology, Khulna, Bangladesh
Md. Saiful Islam Seam, Department of Industrial Engineering and Management, Khulna University of Engineering and Technology, Khulna, Bangladesh

ID 372 Data-Driven Application of the Newsvendor Model for Retail Inventory Optimization Using Forecast–Error Demand Estimation
Md Shoaib Mahmud, Lecturer, Department of Industrial and Production Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh.

Salman Ibrahim Saad, Lecturer, Department of Industrial and Production Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh
Mahmudul Hassan Miazi, Industrial and Production Engineering Department, Military Institute of Science and Technology, Dhaka, Bangladesh

ID 415 A Sustainable Closed-loop Supply Chain Optimization Model for LPG Gas Cylinder Management
Jannatul Ferdous Mim and Md. Mohibul Islam, Industrial & Production Engineering Department, Rajshahi University of Science and Technology, Rajshahi, Bangladesh

ID 427 A Comparative Study on Backorder Prediction and Risk-aware Demand Forecasting Using Machine Learning Approaches in the Bangladeshi Garments Industry Under Short-term Disruption
Md. Ariful Islam, Maream Rahman, and Md Sovon Uddin, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh

ID 460 Analysis and Evaluation of Supply Chain Risks and Mitigation Strategies for Construction Sector in Bangladesh
Md. Lokman Hossen, Mahmodur Rahman and Khairun Nahar, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

4:30 – 7:30 pm, Saturday, December 20 **Onsite Room 5**

Session Chair: Prof Dr. A. K. M. Parvej Iqbal (Mechanical), IUBAT
Session Co-Chair: Dr. Susankar Chandra Acharjee (WUB)

Artificial Intelligence and Data Science

ID 21 Predictive Analytics in Smart Healthcare: Utilizing IoT Data and Machine Learning for Personalized Health Management
Md. Abdul Malek Sobuj, American International University - Bangladesh (AIUB), Bangladesh

ID 55 Some Aspects of AI Tools for Business Statistics Course in Tertiary Education Systems
MM Obaidul Islam, Professor, Department of Operations and Supply Chain Management, Faculty of Business Administration, American International University-Bangladesh
Bikash Barua, Associate Professor, Department of Operations and Supply Chain Management, Faculty of Business Administration, American International University-Bangladesh
Marzan Kazi Rubye, BBA Student, Faculty of Business Administration, Department of Human Resource Management, American International University-Bangladesh, Bangladesh

ID 79 A Hybrid Approach to Multivariate Time Series Forecasting: Integrating VARIMA and Machine Learning Models
Md. Sohanur Rahman and Shumon Kumar Ray, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, and Shahjalal University of Science and Technology, Sylhet -3114, Bangladesh

ID 84 A Multi-Physics Physics-Informed Neural Network for Simulating Transport Phenomena in Multi-Layered Arterial Structures
Md. Abdur Rahman, Department of Mathematics and Statistics, York University, Toronto, ON, Canada

ID 360 AgriHAFNet: A Dual Branch Neural Framework for Multi-Crop Disease Recognition
S. S. Zobaer Ahmed, Barno Biswas, Sumshun Nahar Eity, Tanisha Fairooz, Jubayer Ahamed, Victor Stany Rozario and Dip Nandi, Department of Computer Science, American International University-Bangladesh, Dhaka, Bangladesh

ID 366 ML Based Player Selection Assistant for Franchise Cricket Leagues: A Regional Performance Analysis
Jubayer Ahamed, Arnob Aich Anurag, Shaikat Das Joy, MD Sajid Bin-Faisal, Dip Nandi and Md. Asraf Ali, Department of Computer Science American International University-Bangladesh, Dhaka, Bangladesh

ID 367 Towards Industry 4.0 in the Garment Sector: A Comprehensive Review on Applications of Machine Learning in RMG Industries
Munem Rahman and Limon Chandra Modak, Department of Mechanical Engineering, Dhaka University of Engineering & Technology, Gazipur, Gazipur-1707, Bangladesh
Md. Sajib Sheikh, Department of Industrial and Production Engineering, Dhaka University of Engineering & Technology, Gazipur, Bangladesh
Fahad Bin Nissan, Department of Mechanical Engineering, Dhaka University of Engineering & Technology, Gazipur, Gazipur-1707, Bangladesh
Nur Md Alif Ul Islam, Department of Industrial and Production Engineering, Dhaka University of Engineering & Technology, Gazipur, Bangladesh

ID 389 A Decision-Support Model for 6G IoT Beamforming via Tri-Objective Pareto Optimization
Mithun Pal and Fahrin Rahman, Department of Electrical and Electronic Engineering, European University of Bangladesh, Dhaka, Bangladesh

ID 396 AI-Based Personalization and Its Impact on Customer Experience: A Comprehensive Study of Click-Only Business Models
Marzan Kazi Rubye, BBA Student, Faculty of Business Administration, Department of Human Resource Management, American International University-Bangladesh
Md Obaidul Haque Adib, BBA Student, Faculty of Business Administration, Department of Finance, American International University-Bangladesh

ID 467 Evaluating the Performance of Agile–Waterfall Integrated Approaches in Large Scale Engineering Projects in Bangladesh
Jubayer Ahamed, Abu Saleh Muhammod Alvy, Victor Stany Rozario, Md. Asraf Ali and Shamvi Md Abdullah, Department of Computer Science American International University-Bangladesh, Dhaka, Bangladesh
Zeba Labiba, Department of Software engineering, Macquarie University, Sydney, Australia

ID 163 Employees Upskilling Challenges and Strategies for the Adoption of Industry 4.0 Environment
Deedhity Dhara, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Mst. Shamim Ara Ema, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Md. Mohibul Islam, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh

4:30 – 7:00 pm, Saturday, December 20 **Onsite Room 6**

Session Chair: Prof. Dr. SM Shirazi, CEng, CE, Eastern University
Session Co-Chair: Dr Debasish Sarker (IUBAT)

Sustainability, Green Systems and Energy

ID 78 Green Manufacturing: Confronting Anthropogenic Pressures Transdisciplinary Insights, Policy Synergy, and Future-Oriented Research Frontiers
Shahriar Habib, Khulna University of Engineering & Technology, Bangladesh

ID 92 Advances in pervious and sustainable concrete: A review of material innovations mechanical performance and environmental benefits
Leevesh Kumar, Asaduzzaman Rasel, Sagor Kumar Podder, Taimur Rahman and Hasibul HasanDepartment of Civil Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 103 Transforming Tannery Waste into Resource: Chromium Reuse in Stainless Steel Manufacturing in Bangladesh
Kazi Samia Fairuj Sejuti, Sadikah Tasnim and Jarifa Mahjabeen, Department of Naval Architecture and Marine Engineering Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
Benazir Meem, Department of Computer and Software Engineering, East West University (EWU), Dhaka, Bangladesh
Md. Tanvir Siraj, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

ID 107 Analysis of Leachate Generated from Municipal Solid Waste (MSW) in Matuail Landfill Site, Dhaka
Tanvir Ahmed, Business Administration Department, World University of Bangladesh, Dhaka, Bangladesh
Md. Robaet Hossain Khan, Research Assistant, Accident Research Institute (ARI), Bangladesh University of Engineering & Technology Dhaka-1000, Bangladesh
Tariqul Islam, Assistant Engineer, Zimaflat Engineering, Narsingdi, Dhaka, Bangladesh
Md. Tanvir Ahmmed Jesan, Business Administration Department, World University of Bangladesh, Dhaka, Bangladesh
Md. Tanvir Ahmed, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh
Rokhshana Parvin, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh

ID 229 Sustainable Synthesis of CaO Nanoparticles derived from waste eggshells for Adsorption of Azo Dyes: A waste to wastewater treatment
Parvej Rahman Alif, Lutfun Nahar Meem, Md Mahfuzur Rahman, S.M. Nur Alam, Md. Rayhan Hashan Shakib and Fahim Faisal Tamim, Industrial and Production Engineering, Jashore University of Science and Technology, Jashore, Bangladesh

ID 234 Sea-Level Rise and Salinity Penetration in Coastal Bangladesh: A Case Study of Pekua's Water and Agricultural Vulnerability
Tasnima Zannat, Associate Professor, Department of Civil Engineering, Southern University Bangladesh
Khaled Misbahul Mokor Robin, Deputy Exam Controller, Office of the Controller of Exam, University of Chittagong, Bangladesh
Sayma Akter, Southern University Bangladesh
Utpal Das, Student, Southern University Bangladesh, Dhaka, Bangladesh
A.M Mithun, Undergraduate Student, Chittagong University of Engineering and Technology, Bangladesh

ID 306 Polypropylene Fiber Concrete Incorporating Crushed Tire Waste: A Mechanical Assessment
Irin Hoque, Department of Civil Engineering, Southern University Bangladesh, Chattogram, Bangladesh
Imranul Hoque, Department of Civil Engineering, Southern University Bangladesh, Chattogram, Bangladesh
Arka Prava Das, Assistant Professor, Department of Civil Engineering, Southern University Bangladesh, Chattogram, Bangladesh
Sajid Hasan, Assistant Professor, Department of Civil Engineering, Southern University Bangladesh, Chattogram, Bangladesh

4:30 – 7:00 pm, Saturday, December 20 **Onsite Room 7**

Session Chair: Prof. Dr. Md. Enamul Hoque (MIST)
Session Co-Chair: Md. Mostafizur Rahman (WUB)

Human Factors, Ergonomics and Healthcare Systems

ID 5 Postural Risk Analysis of Workers in Local Furniture Making Workshops using RULA and CATIA-based Digital Human Modeling
Jahid Hasan, Md. Sumon Rahman, Md. Masum Billah, Md. Mahafuj Anam Murad, Shoyeb Muhammad and Assaduzzaman Arif, Department of Industrial and Production Engineering, Jashore University of Science and Technology, Jashore-7408, Bangladesh

ID 98 Study of Pathao Riders' Musculoskeletal Discomfort in Relation to Motorcycle Ergonomic Design in Bangladesh
Mohammad Iqbal, Aninda Saha, Md. Musfik Ahammed, Raktim Madhu, Intisar Ahmed Chowdhury and Qawsar Ali, Department of Industrial & Production Engineering, Shahjalal University of Science & Technology, Sylhet, Bangladesh

ID 11 Towards Holistic Cancer Diagnosis: Developing a Single Deep Learning Model for Multi-Organ Cancer Classification
Md. Khairul Alam Mazumder, Md. Sazid Uddin, Saikat Baul, Afrina Jannat Prity and Md. Mustak Un Nobi, Department of Computer Science American International University-Bangladesh, Dhaka, Bangladesh

ID 59 A Sensor-Based Posture Detection System Towards Ergonomic Health Improvement
Md. Atiur Rahman, Shah Md Tasrifur Rahim, Idrak Al Rakin, Shrabon Mitro, Taufique Ahammed, Rahnuma Islam, Sonia Akhter and Md. Limonur Rahman Lingkon, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh

ID 74 Risk Factors for Musculoskeletal Symptoms among Tea Pluckers in Sylhet and an Ergonomic Basket Concept

Mohammad Iqbal, Syed Sabbir Hasan, Achia Khatun, Md. Mushtaq Tahmid and Syed Misbah Uddin, Department of Industrial & Production Engineering, Shahjalal University of Science and Technology, Sylhet-3114, Bangladesh

ID 130 An Interdisciplinary Investigation of Silk-Based Garments in Infant Skincare: Effects on Friction and Dermatological Health
Dip Das, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Tawfique Raffat Islam, Department of Dermatology, Medical College for Women and Hospital, Dhaka, Bangladesh
Vaskar Mehta, Department of Emergency Medicine and Diabetology, SIBL Foundation Hospital, Dhaka, Bangladesh
Tushar Das, Department of Biochemistry, Holy Family Red Crescent Medical College & Hospital, Dhaka, Bangladesh
Md. Rayhan, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
S.M Sadman, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Sibgatullah Shovon, Department of Textile Engineering, Primeasia University, Dhaka Bangladesh

ID 183 Electromyography Actuated Full Arm Exoskeleton for Restoring Upper Limb Mobility
Syeda Humyra Siddika, Mechanical Engineering Department, Shahjalal University of Science and Technology, Sylhet, Bangladesh
Sadman Bin Zaman, Mechanical Engineering Department, Shahjalal University of Science and Technology, Sylhet, Bangladesh
Shahriar Zaman Rafat, Mechanical Engineering Department, Shahjalal University of Science and Technology, Sylhet, Bangladesh
Ms. Nazmun Nessa Moon, Associate Professor, Department of Computer Science and Engineering, Daffodil International University, Dhaka, Bangladesh

ID 287 BrainCL: Brain Tumor Diagnosis Using Hybrid Deep Learning and Machine Learning Techniques
Nusrat Jahan Trisna, Saikat Baul, Md. Khairul Alam Mazumder, Md. Ariful Islam and Farzana Bente Alam, Department of Computer Science American International University-Bangladesh, Dhaka, Bangladesh

ID 461 Assessment of Medical Waste and Management Processes in Bangladesh Perspective: A Study Based on Rajshahi City
Mahmodur Rahman, Sohag Miah and Md. Mosharraf Hossain, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

4:30 – 7:00 pm, Saturday, December 20 Onsite Room 8

Session Chair: Prof. Dr. Md. Enamul Hoque (MIST)
Session Co-Chair: Engr. Zahid Hasan (IUBAT)

Sustainability, Green Systems and Energy

ID 307 Surface Water Quality of Balu River, Dhaka, Bangladesh
Tanvir Ahmed Business Administration Department, World University of Bangladesh, Dhaka, Bangladesh
Md. Robaet Hossain Khan, Research Assistant, Accident Research Institute (ARI), Bangladesh University of Engineering & Technology, Dhaka-1000, Bangladesh
Tariqul Islam, Assistant Engineer, Zimaflat Engineering, Narsingdi, Dhaka, Bangladesh
Md. Tanvir Ahammed Jesan, Business Administration Department, World University of Bangladesh, Dhaka, Bangladesh
Md. Tanvir Ahmed, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh
Rokhshana Parvin, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh

ID 322 Evaluation of Mechanical, Water Uptake, and Soil Degradation Performance of Gamma-Irradiated Pineapple Leaf Fiber Reinforced Polypropylene Composites
Masuma Jahan Tanjila, Mohammad Bellal Hoque, Md. Mostafizur Rahman, Md. Imran Hosen, Umma Ayman and Tanzim Hossain Oyshi, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 323 A Multi-Method Assessment for Modeling the Ecological Footprint Response to Air Freight Volume, Export Performance, and Natural Resource Rents
Limon Bin Hossain, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh.
Md. Muhaimenul Haque, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh.
MD. Rakonuzzaman, Dept. of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 326 An Overview of Solar Power Growth in Bangladesh: Technologies, Policy Frameworks, and Market Trends
Enamul Hoq, Md Shariful Islam and Md. Mizanur Rahman, Department of Mechatronics Engineering, World University of Bangladesh
B.M. Asifur Rahman, Joint Director, Bangladesh Bank, Bangladesh
Md Ruqul Merda, AGM, iKOPU Company Limited, Dhaka, Bangladesh

ID 437 Recent Advances in Transition-Metal Doped MoS_2 Nanostructures for Flexible Supercapacitor Electrodes
Md. Abdulla Al Masud, Md Rasel Islam, Md. Sihabul Islam Arpon, Md. Abtahi Islam Fahim, Md. Al-Muktadir Ratul and Kazi Mamunur Rahman Rifat, Materials Science and Engineering, Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh

ID 438 Review on MXene–Starch Based Packaging Systems for Sustainable and Biodegradable Electronics
Nafees Ibne Alam, Maisha Chowdhury Karabi and Sabiqune Nahar Niti, Department of Materials Science and Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh

4:30 – 7:00 pm, Saturday, December 20 **Virtual Zoom Room 9**

Session Chair: Dr. Mst. Nazma Sultana, Associate Professor, Dept. of IEM, KUET
Session Co-Chair: Dr. Nazrul Islam, IEOM Canada

Artificial Intelligence and Data Science

ID 42 The Role of AI in Apparel Manufacturing
Shekh Nusrat Jahan, Information Technology Department, Westcliff University, California, USA
Md.Khaled Ahmed, CSE, Shah Jalal University of Science and Technology, Sylhet, Bangladesh
Asad Ahmed Rabbi, Department of CSE, Sylhet International University, Sylhet, Bangladesh
Shibbir Ahmad, Department of Mechanical Engineering, Dhaka University of Engineering and Technology (DUET), Dhaka, Bangladesh

ID 52 Initialization-Free Non-Linear Constrained Optimization Using a Bayesian Self-Supervised MLP
Mahamudul Hassan Siddique, Miftaur Rahman Zisan and Fahimul Haque, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

ID 65 Development of a Lightweight Drone with Real-Time Facial Recognition for Security and Surveillance
Md. Naim Mia, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Anik Biswas, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 102 Hybrid Predictive Modelling on U.S. Recession Forecasting: A Comparison of Machine Learning and Response Surface Methodology
Miftaur Rahman Zisan, Bangladesh University of Engineering and Technology, Bangladesh

ID 116 Bias-Aware Forecasting of Excess Mortality: Revealing the Halo Effect via Machine Learning and Counterfactual Explanations
Md. Galibur Rahman and Md. Foysal Hossain, Department of Industrial and Production Engineering, Shahjalal University of Science and Technology, Bangladesh

ID 121 Benefits of Artificial Intelligence in Industrial Engineering
Shibbir Ahmad, PhD Fellow, DUET, Global Marketing & Supply Chain Director, 3A Clothing Concern Ltd., Adjunct Professor, Bangladesh Institute of Management (BIM), Bangladesh

ID 167 Effectiveness of Gamification in Education 4.0 to Enhance Student Learning Outcomes in Bangladesh
Kazi Redwan, American International University-Bangladesh, Bangladesh

ID 172 Multimodal Forensic Accounting Fraud Detection Using Transformer-Based NLP Models
Turjo Das Dip, American International University-Bangladesh, Bangladesh

ID 178 Forecasting Onion Prices in Indian Cities: A Comparative Analysis of Time Series Models
Syed Tahmid Jamil, Industrial Engineering Department, BGMEA University of Fashion and Technology, Dhaka, Bangladesh
Mashiat Iqbal, Statistics and Data Science Department, Jahangirnagar University, Dhaka, Bangladesh

ID 209 Data-Driven Prediction and Recommendation of Elective Courses for Master's Students
Md. Khairul Basar, Md. Afzal Hossain, Sheik Md Al Arifin and Kamrul Hasan, Department of Industrial and Production Engineering, Shahjalal University of Science and Technology, Sylhet, Bangladesh

7:00 – 10:00 pm, Saturday, December 20 **Virtual Zoom Room 9**

Session Chair: Dr. Md. Mohibul Islam, Department of Industrial & Production Engineering, RUET, Rajshahi, Bangladesh
Session Co-Chair: Dr. Nazrul Islam, IEOM Canada

Industry 4.0, IoT, AI and DM

ID 82 Mapping the Intellectual Landscape of 3D Food Printing: A Bibliometric and Network Analysis
Jahid Hasan Ashik, Raj Ghosal and Maliha Ashraf Urbana, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 85 Implementation and Evaluation of an IoT-Based Smart Dustbin System for Healthcare Waste Management
Kazi Irteza Islam, Department of Industrial and Production Engineering, Ahsanullah University of Science and Technology, Department of Applied Statistics and Data Science, Jahangirnagar University, Dhaka, Bangladesh
Niloy Goswami, Department of Electrical and Electronic Engineering, American International University-Bangladesh, Dhaka, Bangladesh

ID 99 Integrating 6G Network Metrics and Production Signals for Novel Machine Learning-Based Efficiency Prediction in Smart Manufacturing
Md. Galibur Rahman and Md. Foysal Hossain, Department of Industrial and Production Engineering, Shahjalal University of Science and Technology, Bangladesh

ID 171 Integrating IoT Maturity and Data Driven Decision Making: A Hybrid SEM-AHP Framework for Smart Factory Performance
MD Faiaz Zaman Dehan, Kazi Md. Tanvir Anzum and Jannatul Ferdaus Disha, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 395 An Investigation of Challenges and Opportunities of Implementing Industry 4.0 in Garments Industry: A Case of Bangladesh
Md. Aliwar Hossain, Industrial & Production Engineering Department, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Md. Haidar Ali, Industrial & Production Engineering Department, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh

Md. Mosharraf Hossain, Professor, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Bangladesh

ID 480 Design and Implementation of a Low-Cost IoT based Smart Energy Meter
Mehrab Hossain Shihab, Md. Mahmudul Hasan, Rapsan Amin Anonto, Md. Mehedi Hasan and Md Tanvir Rahman, Electrical and Electronic Engineering Department, American International University – Bangladesh, Dhaka, Bangladesh

ID 166 Comparative Evaluation of Supervised and Unsupervised Machine Learning Methods for Predictive Maintenance in Manufacturing
Miftaur Rahman Zisan and Anik Debnath, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

Case Studies and Engineering Management

ID 391 Arch Bridge Construction Methodology: Lesson Learned from Failure Study
Md Yeasin Mostafiz, Graduate Student, Department of Civil Engineering, University of Texas at Arlington, Arlington, Texas, United States
Manshib Tazowar, Graduate Student, Department of Civil Engineering, University of Texas at Arlington, Arlington, Texas, United States
Ishtiaque Ahmed, Professor, Department of Civil Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

ID 392 Foresight Analysis: Probabilistic Scenarios for the Electric Automotive Sector in Lima by 2030
Juan José Céspedes-Angeles, Facultad de Ingeniería, Universidad de Lima, Peru
Joseph Anthony Neyra-Salazar, Facultad de Ingeniería, Universidad de Lima, Peru
Gustavo Adolfo Luna-Victoria-León, Research Professor, Facultad de Ingeniería, Universidad de Lima, Peru

ID 394 Efficiency Improvement Based on Lean Service and Machine Learning in an SME of the Services Sector
Gianella Guadalupe Turín-Cabrera, Facultad de Ingeniería, Universidad de Lima, Peru
Wendy Carolayn Pérez-Ruiz, Facultad de Ingeniería, Universidad de Lima, Peru
Nicolás Salazar-Medina, Research Professor, Facultad de Ingeniería, Universidad de Lima, Peru

ID 397 Application of Poka Yoke and Kaizen Tools to Improve the Capacity of The Packaging Manufacturing Process In The Pharmaceutical Sector
Fiorella Marian Bonilla-Román, Facultad de Ingeniería, Universidad de Lima, Peru
Ariana Daniela Olivas-Montesinos, Facultad de Ingeniería, Universidad de Lima, Peru
Silvia Patricia Ponce-Álvarez, Research Professor, Facultad de Ingeniería, Universidad de Lima, Peru

ID 469 Optimizing Performance and Managing Workload in Critical Hospital Services
Nardjesse Bensekhria, MD, Associate Professor of Occupational Medicine, Faculty of Medicine, University of Batna 2, Algeria

ID 475 Ocean-Based Renewable Energy: Technologies, Progress, And Comparative Potential
Lt Cdr Mohammad Mahbubur Rahman, Engineer Officer, BNS DURGAM, Mongla, Khulna
Lt Cdr Md. Shamit Sharif, Engineer Officer, Bangladesh Maritime University, Dhala, Bangladesh

December 21, 2025 (Sunday) - Session: 8:00 – 10:00 am

8:00 – 10:00 am, Sunday, December 21 **Virtual Zoom Room 9**

Session Chair: Prof. Don Reimer, IEOM Society
Session Co-Chair: Dr. Mizanur Rahman, IEOM Australia

Sustainability, Green Systems and Energy

ID 109 Stochastic Optimization for Green Job Shop Scheduling with Hybrid Solar-Grid Energy Management
Mubtasim Rubaet, Afnan Aftar Khan and Ferdous Sarwar, Department of Industrial and Production Engineering Department, Bangladesh University of Engineering Technology, Dhaka, Bangladesh

ID 110 Stochastic Optimization for Green Job Shop Scheduling with Hybrid Solar-Grid Energy Management
Mubtasim Rubaet, Afnan Aftar Khan and Ferdous Sarwar, Department of Industrial and Production Engineering Department
Bangladesh University of Engineering Technology, Dhaka, Bangladesh

ID 223 Exploring the Influence of Solvents on One-Pot Synthesized CdS/MoS2 Nanocomposites for Sustainable Environmental Remediation and Energy Storage Applications
Kaysar Hamid, Master's by Research Student, Department of Chemical Engineering and Polymer Science, Shahjalal University of Science and Technology, Sylhet, Bangladesh
Mustafizur Rahman, Undergraduate Student, Department of Chemical Engineering and Polymer Science, Shahjalal University of Science and Technology, Sylhet, Bangladesh
Md. Tamez Uddin, Professor, Department of Chemical Engineering and Polymer Science, Shahjalal University of Science and Technology, Sylhet, Bangladesh

ID 259 Comparative Analysis of LSTM and PINN for Internal Resistance Estimation in Lithium-Ion Batteries
Md. Ebrahim Khallil, Tennessee Technological University, United States

ID 285 Microfluidic Thermal Management for Battery Cooling: A Review on Tesla-Valve Microchannel Approach to Solve Flow Maldistribution and Thermal Non-Uniformity
Md Mohaimeen Ul Islam, Bachelor of Maritime Science, Bangabandhu Sheikh Mujibur Rahman Maritime University, Dhaka, Bangladesh

December 21, 2025 (Sunday) - Session: 10:00 am – 1:00 pm

Keynotes

10:00 – 10:30 Keynote X:

Dr Ahm Shamsuzzoha
Associate Professor (Tenure track), Industrial Systems Analytics
University of Vaasa, Finland

10:30 – 11:00 Keynote XI:

Dr Shakil Quayes, Chair, Department of Economics,
University of Massachusetts Lowell, Health & Social Sciences
Lowell, MA, USA

11:00-11:30 Keynote XII:

Dr Muhammad Adnan
Lecturer in Project Management
Faculty of Computing, Engineering, and the Built Environment (CEBE)
Birmingham City University
Birmingham, UK

11:30 – 12:00 Keynote XIII:

Dr Shameem Ahmed
Associate Professor, Department of Computer Science
Western Washington University, Bellingham, Washington, USA

12:00 – 12:30 Keynote XIV:

Dr Ferdous Sarwar, PhD
Professor, Department of Industrial & Production Engineering
Bangladesh University of Engineering and Technology (BUET)
Dhaka, Bangladesh

10:00 – 12:00 am, Sunday, December 21 **Virtual Zoom Room 9**

Session Chair: Arvin Bahreini, University of Oregon, United States
Session Co-Chair: Dr. Mizanur Rahman, IEOM Australia

Supply Chain and Logistics

ID 41 Analyzing Enablers for Adopting Integrated Green and Circular Supply Chain in Bangladeshi Textile Industries
Anindya Chowdhury, Maria Islam and MD Faiaz Zaman Dehan, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 45 Artificial Intelligence Techniques for Minimizing Production Cost in Garments Supply Chain
Shibbir Ahmad and Md. Kamruzzaman, Department of Mechanical Engineering, Dhaka University of Engineering and Technology (DUET), Dhaka, Bangladesh

ID 101 Integrating Meteorological Data and Machine Learning for Supply Chain Disruption Forecasting in Industrial and Production Engineering
Md. Galibur Rahman and Md. Foysal Hossain, Department of Industrial and Production Engineering, Shahjalal University of Science and Technology, Bangladesh

ID 108 Data-Driven Pricing for Adaptive Supply Chain Decisions: A Time Series Approach with Opencell Data in the Television Industry
M M Shourov Akter, Md. Sohanur Rahman and Md. Imtiaz Siddiqui, Department of Energy Technology, KTH Royal Institute of Technology,114 28 Stockholm, Sweden
Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology Rajshahi-6204, Department of Electrical & Electronic Engineering, American International University-Bangladesh, Khilkhet, Dhaka-1229, Bangladesh

ID 111 Data-Driven Single-Period Inventory Optimization Using Forecast-Error Quantiles
Md. Shoaib Mahmud, Department of Industrial and Production Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh
Salman Ibrahim Saad, Department of Industrial and Production Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh

ID 205 Implementation of IoT-based Flexible Temperature and Humidity Monitoring in Inventory and Transportation of Sensitive Goods
Kazi Irteza Islam, Department of Industrial and Production Engineering, Ahsanullah University of Science and Technology, Dhaka, Bangladesh
Doha Khan Mazlish, Department of Computer Science and Engineering, United International University, Dhaka, Bangladesh
Syed Tahmid Jamil, Department of Industrial Engineering, BGMEA University of Fashion and Technology, Dhaka, Bangladesh

ID 208 Nonlinear and Stochastic Demand in a Two-Echelon VMI Joint Replenishment Model
Arvin Bahreini, University of Oregon, United States

ID 210 Identifying, Ranking, and Analyzing Interrelationships Among Barriers to Sustainable Perishable Supply Chains
Nur Md Alif Ul Islam, Department of Industrial and Production Engineering, Dhaka University of Engineering & Technology, Gazipur, Bangladesh
Md Abdullah Mia, Department of Strategic Business Development, University of Vaasa, Vaasa, Finland
Mohammad Rakibul Hasan Chowdhury, Department of Industrial Management, University of Vaasa, Vaasa, Finland
Omer Tahsin, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

12:00 – 2:00, Sunday, December 21 **Virtual Zoom Room 9**

Session Chair: Areebah Ahsan, BRAC University, Dhaka, Bangladesh
Session Co-Chair: Dr. Mizanur Rahman, IEOM Australia

Human Factors, Ergonomics and Healthcare Systems

ID 73 An Integrative Review of Strategies and Solutions for Preventing Workplace Hazards and Related Occupational Injuries
Mehayrun Nesa Shupti, Jahid Hasan Ashik, and Shahriar Hasan Ratul, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 197 Heat Stress, Fatigue and Occupational Challenges among Traffic Police: A Review
Nayan Debnath Pranta, Nilufa Yeasmin, Arnab Laskar, and Mohammad Iqbal, Professor, Department of Industrial Engineering & Production Engineering, Shahjalal University of Science and Technology, Sylhet-3114, Bangladesh
Salma Akhter, Professor, Department of Chemical Engineering & Polymer Sciences, Shahjalal University of Science and Technology, Sylhet-3114, Bangladesh

ID 281 A Comprehensive Review on Advance in Deep Reinforcement Learning for Health Care Optimization
Jannatul Ferdaus Disha, Kazi Md. Tanvir Anzum, Istiak Mahmud, MD Faiaz Zaman Dehan and MD. Mahfuzur Rahman Masum, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

Sustainability, Green Systems and Energy

ID 308 Eco-Concrete Innovation: Strength Performance Analysis of Waste Plastic Fiber Mixtures
Saiful Islam Talukder, Department of Civil Engineering, Southern University Bangladesh, Chittagong, Bangladesh
Tania Sultana, Department of Civil Engineering, Southern University Bangladesh, Chittagong, Bangladesh
MD. Shifatul Islam Sizol, Department of Civil Engineering, Southern University Bangladesh, Chittagong, Bangladesh
Arka Prava Das, Lecturer, Department of Civil Engineering, Southern University Bangladesh, Chittagong, Bangladesh

ID 370 An Advanced Analytical Approach for Landfill Site Selection in Rajshahi City for Solid Waste Management
Asib Rahman, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Sujoy Dey, Department of Water Resources Engineering, Bangladesh University of Science and Technology, Dhaka, Bangladesh
Md. Jubayer Ahamed, Department of Water Resources Engineering, Bangladesh University of Science and Technology, Dhaka, Bangladesh
Md. Mosharraf Hossain, Department of Industrial & Production Engineering, Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh

ID 393 Smart Urban Water Cycle: The Processes of Recirculation, Reuse and Collection are to be Carried Out in Conjunction with Digital Twins and Environmental Accounting
Victor Martin Maldonado Benitez, ESIME Zacatenco, Instituto Politécnico Nacional, Mexico City, Mexico
Gabriela Guadalupe Escobedo Guerrero, ESCA Santo Tomás, Instituto Politécnico Nacional, Mexico City, Mexico

ID 413 A Decade After Rana Plaza: The Paradox of Sustainability in Green Supply Chain Management and ESG Practices in Bangladesh's Garment Industry
Areebah Ahsan, BRAC University, Dhaka, Bangladesh

December 21, 2025 (Sunday) - Session: 1:00 – 3:00 pm

1:00 – 2:00 pm - Prayer Break and Lunch

2:00 – 3:00 pm – Awards and Recognitions

December 21, 2025 (Sunday) - Session: 3:00 – 4:30 pm

3:00 – 4:30 pm, Sunday, December 21 **Onsite Room 1**

Panel on Lean Six Sigma

Panel Theme: Lean Six Sigma: Driving Sustainable Excellence in Industrial Operations

Panel Chair:

Professor Dr. Md Mamun Habib
Department of General Management
Independent University, Bangladesh (IUB), Dhaka, Bangladesh

Speaker 1:

Professor Dr. Mohammad Faisal Ahammad
Head of International Business Department
University of Leeds, UK

Speaker 2:

Mir Sharif Ahammad
Executive Director
Head of Commercial (Import & Export)
Walton Hi-Tech Industries PLC., Dhaka, Bangladesh

Speaker 3:

Professor Dr. Selim Ahmed
Dean, Faculty of Business Studies
World University of Bangladesh, Dhaka, Bangladesh

3:00 – 5:00 pm, Sunday, December 21 **Onsite Room 2**

Session Chair: Prof. Dr. Mir Mohammad Azad, Professor & Head, Computer Science and Engineering, World University of Bangladesh
Session Co-Chair: Dr. Sharif Hossain (WUB)

Case Studies and Best Practices

ID 115 GIS-Based Assessment of Environmental Impacts of Industrial Expansion: A Case Study of Land Degradation in Hamayetpur, Bangladesh
Mozakkir Azad, Department of Environmental Science and Engineering, Jatiya Kabi Kazi Nazrul Islam University, Mymensingh-2224, Bangladesh
Akifa Monjur, Department of Urban and Regional Planning, Chittagong University of Engineering and Technology (CUET), Chattogram, Bangladesh
Tasmia Sharmin Rimi, Department of Civil and Environmental Engineering, Islamic University of Technology (IUT), Bangladesh
Mofassir Azad, Department of Applied Mathematics, University of Rajshahi, Rajshahi-6205, Bangladesh
Maheya Yeasmin Mithe, Patuakhali Science and Technology University, Patuakhali-8602, Bangladesh

ID 202 Application of ABC–VEN Analysis and EOQ Model for Effective Inventory Control in a Medicine Retailer: A Case Study of a Leading Retail Pharmacy in Bangladesh
Ashrafe Bin Alim, Shamsul Arafat Chowdhury, Abhishek Acharya and Saiful Islam Shakil, Department of Industrial & Production Engineering, Rajshahi University of Engineering Technology, Rajshahi, Bangladesh

ID 220 Lean Implementation and Bottleneck Identification through Value Stream Mapping in the Garments Industry
Ferdous Ahmed Rana, Md. Olid-Al-Bashara and Mst. Mitu Khatun, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Md Alamgir Hossain and Nazia Muhsin, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka, Bangladesh

ID 280 Analysis of Leachate Generated from Municipal Solid Waste (MSW) in Matuail Landfill Site, Dhaka
Tanvir Ahmed, Business Administration Department, World University of Bangladesh, Dhaka, Bangladesh
Md. Robaet Hossain Khan, Research Assistant, Accident Research Institute (ARI), Bangladesh University of Engineering & Technology Dhaka-1000, Bangladesh
Tariqul Islam, Assistant Engineer, Zimaflat Engineering, Narsingdi, Dhaka, Bangladesh
Md. Tanvir Ahammed Jesan, Business Administration Department, World University of Bangladesh, Dhaka, Bangladesh
Md. Tanvir Ahmed, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh
Rokhshana Parvin, Department of Civil Engineering, World University of Bangladesh, Dhaka- 1230, Bangladesh

ID 117 Operational Responses to Extreme Uncertainty: International Evidence on Corporate Risk-Taking
Md Ismail Haidar, PhD Candidate in Business Administration, University of Texas Rio Grande Valley, Edinburg, TX, USA
Md Showaib Rahman Sarker, Assistant Professor of Finance, Department of Finance and Business Law, University of Wisconsin-Whitewater, Whitewater, WI, United States
Bakhtear Talukdar, Associate Professor of Finance, Department of Finance and Business Law, University of Wisconsin-Whitewater, 800 W Main Street, Whitewater, WI, United States

ID 485 Optimizing Home Appliance Assembly through Integrated Value Stream Mapping and SAM
Md Alamin Munhsi and Fahad Ahmed, Industrial Engineering Department , BGMEA University of Fashion and Technology , Dhaka, Bangladesh

ID 486 Parameter Optimization for Reducing Machining Time in Wire-EDM Machining of DanCut 345 Alloy Using Taguchi Method and ANOVA
Atanu Barua, Wazed Ibne Noor, Md. Bayazid Ahmed, MD Solaman, and Arfan Ullah, Department of Mechanical Engineering, University of Creative Technology Chittagong, Chittagong, Bangladesh

3:00 – 5:00 pm, Sunday, December 21 **Onsite Room 3**

Session Chair: Professor Dr. Rafiuddin Ahmed, Department of Marketing, North South University
Session Co-Chair: Reza us Saleheen (MTE, WUB)

Quality, Reliability and Maintenance

ID 86 A Systematic Fault Diagnosis and Reliability Assessment of Motorbikes Applying an FMEA-FTA Approach
S M Sayeed Anowar, Lutfun Nahar Meem, Arpita Saha, Abdul Matin, and Md Mahfuzur Rahman, Department of Industrial and Production Engineering, Jashore University of Science and Technology, Jashore - 7408, Bangladesh

ID 126 Comparative Analysis of Fabric Property Changes Processed by Two Different Brands of Stenter Machines: A Study on Drying and Finishing Effects in Textile Production
Dip Das, Farjana Rahman, and Md. Rayhan, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 129 A Multifactorial Analysis of the Effect of Washing Temperature Variations on Denim Fabric Performance: Examining Changes in Denim Fabric's Structural, Mechanical, and Aesthetic Properties
Dip Das, Salin Asfi, Farjana Rahman, Md. Rayhan, and Muhammad Shahadat Hossen, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Sibgatullah Shovon, Department of Textile Engineering, Primeasia University, Dhaka Bangladesh

ID 256 Reducing Sewing Defects in RMG Manufacturing for Continuous Improvement: A PDCA Framework Approach
Auritra Mondal, Md Ariful Ferdous, Md Samsul Islam and Afnur Adib, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Nishatnagar, Turag, Dhaka-1230, Bangladesh

ID 258 Implementation of Overall Equipment Effectiveness (OEE) and Its Optimization: Data Driven Analysis of Tablet & Capsule Packaging Section
Sheikh Maliha Hassan, BGMEA University of Fashion & Technology, Bangladesh

ID 377 Implementation of Total Productive Maintenance (TPM) by Evaluating Overall Equipment Effectiveness (OEE): A case study
Tanzil Ahamed, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Md Ariful Ferdous, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Rakibul Islam Rakib, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Seemanta Sarker Pranta, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh

ID 470 A Predictive Maintenance Framework for Elevators: Detecting Mechanical Anomalies Using Unsupervised Deep Learning and Outlier Models
Md. Efatuzzaman Efat, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh
Sayed Md. Fazle Rabbi, Department of Electrical and Electronic Engineering, Ahsanullah University of Science and Technology, Dhaka, Bangladesh
Sumiya Afrose, Department of Robotics and Mechatronics Engineering, University of Dhaka, Dhaka, Bangladesh
Shaikh Farhana Supti, Institute of Information and Communication Technology, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
Mohammad Sultan Mahmud, Professor, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh

3:00 – 5:00 pm, Sunday, December 21 **Onsite Room 4**

Session Chair: Prof. Dr. Ziaur Rahman khan (EEE, BUET)
Session Co-Chair: Md. Mustafizur Rahman (Automobile, WUB)

Automation, Robotics and Autonomous Systems

ID 64 Design of a Plant Leaf Disease Identification and Remedy Prescription System using Drone Technology
Md. Naim Mia, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Anik Biswas, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 70 Autonomous Line-Following Robot Utilizing Atmega 32 Microcontroller
Anik Biswas, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Ovijit Bhattacharjee, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 91 Analyzing Algorithms for Optimal Point-to-Point Trajectory Generation of a 3-DOF Manipulator
Md Shirajul Islam, Department of Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Asief Javed, Assistant Professor, Department of Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh
Md. Helal-An-Nahiyan, Professor, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna, Bangladesh

ID 97 A Low-Cost Computer Vision Approach to Robotic Weight Sorting in Pharmaceutical Manufacturing
Jobait Alam, Farzana Khandoker and Kawsari Aktar Protha, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
Md. Rizwan Ullah, Department of Mechanical Engineering, University of Wyoming, Laramie, Wyoming, USA

ID 195 A Comparative Investigation of Overhead Automated Material Handling System in a Sewing Floor of a RMG Industry in Bangladesh- A Case Study
Tawhidul Amin Rafi, Industrial and Production Engineering, Bangladesh University of Textiles, Dhaka, Bangladesh
Oysha Rehan, Industrial and Production Engineering, Bangladesh University of Textiles, Dhaka, Bangladesh
Md. Firoz Kabir, Lecturer, Industrial and Production Engineering, Bangladesh University of Textiles, Dhaka, Bangladesh

ID 231 A Lightweight ML Framework for Predicting Machine Downtime in Small-Scale Manufacturing Units
Mia Md Mostafa Kamal Arif, Sanjidur Rahman, Md. Arefin Hasan, Md. Saiful Islam Seam, Khandaker Faysal Ahammed and Abdullah Al Kabid
Department of Industrial Engineering and Management, Khulna University of Engineering and Technology, Khulna 9203, Bangladesh

3:00 – 5:00 pm, Sunday, December 21 Onsite Room 5

Session Chair: Depesh Banik, Webb Fontaine, Bangladesh
Session Co-Chair: Md. Mashud Rana (Mechanical, WUB)

Artificial Intelligence and Data Science

ID 174 Classical Hybrid Time Series Forecasting of Bangladeshi Air Conditioner Market Dynamics
Md.Rabiul Hasan, Md. Sourove Akther Momin and Salaha Uddin Chowdhury Shaju, Department of Statistics and Data Science, Jahangirnagar University, Dhaka, Bangladesh

ID 193 A Cognitive Operations Management (COM) Framework for Phishing Resilience: Quantifying User Decision Quality (UDQ) using Evidence Accumulation Modeling
Musfique-us-Salehin Arnob, Ovejite Saha and Md Anisuzzaman, Master of Science in Cyber Security, World University of Bangladesh, Dhaka, Bangladesh

ID 226 Data-Driven Strategies to Combat Missed Appointments: Machine Learning Prediction and Optimization of Healthcare Resources
Md. Ashhab Rahman and Tasnimul Hasan Nishorgo, Department of Industrial and Production Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh
Tanjeel Ahmed Bin Zaman, Lecturer, Department of Industrial and Production Engineering, Military Institute of Science and Technology, Dhaka, Bangladesh

ID 230 Prediction of Smartphone Sales Revenue Through Machine Learning Approach
Salman Monir, Bachelor of Science in Industrial and Production Engineering, Khulna University of Engineering & Technology (KUET), Bangladesh
Md. Rafsan Jamil, Bachelor of Science in Industrial and Production Engineering, Military Institute of Science and Technology (MIST), Bangladesh
Shezan Ahmed, Bachelor of Science in Industrial and Production Engineering, Khulna University of Engineering & Technology (KUET), Bangladesh
Sagor Hossain, Bachelor of Science in Industrial and Production Engineering, Khulna University of Engineering & Technology (KUET), Bangladesh

ID 232 A Machine Learning Framework for Ecological Load Assessment Using Supervised and Unsupervised Models
Anik Debnath and Akash Sikdar Sudip, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh
Souvik Mandol, Department of Computer Science and Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 283 Surveillance Car using ESP32 CAM modules Wirelessly with QVGA (320*240) Display Resolution
Sumaiya Shahria, Department of Mechatronic Engineering, Khwaja Yunus Ali University, Enayetpur, Bangladesh
Subrota Sarker Rabin, Department of Mechatronic Engineering, Khwaja Yunus Ali University, Enayetpur, Bangladesh
Md. Shiblu Hossain, Department of Mechatronic Engineering, Khwaja Yunus Ali University, Enayetpur, Bangladesh

ID 411 Impact of AI in Formulating Project Management Strategies in Modern Business Organizations
Depesh Banik, Webb Fontaine, Bangladesh

ID 447 A Comprehensive Review of Artificial Intelligence in Lab Management, Research, and Diagnosis within Diagnostic Centers
Md. Rokibul Hasan Bhuiyan, Department of Biochemistry and Molecular Biology, University of Rajshahi, Rajshahi, Bangladesh
Md. Maniruzzaman, Department of Pharmacy, School of Science & Technology, Varendra University, Rajshahi, Bangladesh
Md. Saifujjaman, Department of Mechanical Engineering, Arkansas State University, Jonesboro, AR, United States
Afiya Anjum, Department of Biochemistry and Biotechnology, University of Science and Technology Chittagong, Chattogram, Bangladesh
Md. Akram Hossain Khan, Department of Biochemistry and Biotechnology, University of Science and Technology Chittagong, Bangladesh
Anwar Hossen Rifat, Department of Biochemistry and Biotechnology, University of Science and Technology Chittagong, Chattogram, Bangladesh
Mst. Tasnova, Department of Pharmaceutical Sciences, North South University, Block-B, Bashundhara, Baridhara, Dhaka, Bangladesh
Kaisar Ahmad Chowdhury, Department of Pharmacy, International Islamic University Chittagong, Kumira, Chittagong, Bangladesh
Md Rakib Rased Rana. Department of Pharmacy, School of Science & Technology, Varendra University, Rajshahi, Bangladesh
Md. Sadikuj Jaman, Department of Biochemistry and Molecular Biology, University of Rajshahi, Rajshahi, Bangladesh

3:00 – 4:30 pm, Sunday, December 21 Onsite Room 6

Session Chair: Prof. Dr. Mohammad Faisal Ahammad, Head of International Business Department, University of Leeds, UK

Session Co-Chair: Md. Sohel Rana (Mechanical, WUB)

Sustainability, Green Systems and Energy

ID 157 A Feasibility Study on the Rooftop Solar Net Metering System for Root Level Institute Facilities in Bangladesh
Alif Al Mahamud, Department of Electrical and Electronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Md. Nayeem Hasan Mallick, Md. Istianatur Rahman, Md. Mohsin and Md. Sharif Uddin Shajib, Department of Electrical and Electronics, World University of Bangladesh, Dhaka, Bangladesh

ID 159 Harnessing Footstep Energy: Piezoelectric Power Generation in Bangladeshi Shopping Malls
Kazi Samia Fairuj Sejuti, Sadikah Tasnim, Jarifa Mahjabeen and Ittehad Ikram, Department of Naval Architecture and Marine Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
Md. Tanvir Siraj, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh

ID 189 Synthesis and Characterization of Al2O3 Nanoparticles Using the Co-precipitation Method as Corrosion Inhibitor
Md. Abu Noman, Zunayed Bin Imam, Rupak Saha, Itquan Hossen, and M.M.K. Bhuiya, Department of Mechanical Engineering, Chittagong University of Engineering and Technology (CUET), Chattogram-4349, Bangladesh

ID 212 Techno-Economic Design and Analysis of a 10 MW Grid-Connected Solar Power Plant in Sirajganj, Bangladesh
Tanveer Shadman Sourav, Md. Iftekhar Alam, Syeda Farzeen Kabir and Mohammed Mazed Ahmed, Department of Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka, Bangladesh

ID 222 Towards a Low-Carbon Circular Economy: Innovative Solid Waste Management in Garment Industries of Urban and Peri-Urban Dhaka
Muhammad Abid H. Khan, Fadi A. Sajed, Afsana Islam, Adiba B. Atik, Israt F. Shupti, Shama E. Haque and Nazmun Nahar, Department of Civil and Environmental Engineering, North South University, Bashundhara, Dhaka-1229, Bangladesh

ID 228 A Hybrid ARDL-RSM Framework for Understanding the Impact of Energy, Urbanization, and Water Resources on the Ecological Footprint
Anik Debnath, Akash Sikdar Sudip and Limon Bin Hossain, Department of Industrial and Production Engineering, Bangladesh University of Engineering and Technology, Dhaka-1000, Bangladesh

ID 390 Optimizing Performance of Novel ITO/LBSO/$FASnI_3$/CuO Perovskite Solar Cell: Role of Defect and Interface Engineering Via SCAPS 1D
Md. Fardous Hasan Bappy, Abdullah-Al-Mazed Khan, Arnika Tabassum Arni and Md. Saiful Islam Shanto, Materials Science and Engineering Department, Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh

3:00 – 4:30 pm, Sunday, December 21 Onsite Room 7

Session Chair: Prof. Dr. Md. Shawkut Ali Khan, Professor, Department of Mechatronics Engineering, World University of Bangladesh
Session Co-Chair: Md. Tarazul Malik (Mechanical, WUB)

Lean Six Sigma and Operations Excellence

ID 282 A Risk-Based Lean Six Sigma Framework for Operational Excellence in High-Potency Pharmaceutical Manufacturing
Wahida Akther, QC Incharge (Penicillin), Drug International Limited, Tongi, Gazipur, Bangladesh
Md Anisuzzaman, Master of Science in Cyber Security, World University of Bangladesh, Dhaka, Bangladesh

ID 320 Workers' Perspectives: Emotional Consequences of Lean Manufacturing Change Using Six Sigma in the Bangladesh Textile Sector
Mohammad Fazle Rabbe, Department of Textile Engineering Management, Bangladesh University of Textiles (BUTEX), 92, Shaheed Tajuddin Ahmed Avenue, Tejgaon Industrial Area, Dhaka – 1208, Bangladesh
Soudho Shikhar Roy, Department of Apparel Engineering, Bangladesh University of Textiles (BUTEX), 92, Shaheed Tajuddin Ahmed Avenue, Tejgaon Industrial Area, Dhaka – 1208, Bangladesh
Md. Tanvir Ahmed, Institute of Sustainable Chemistry (INSC), Leuphana University, Lüneburg, Germany
Bebe Fatema Bristy, Lecturer, Department of Textile Engineering, BGMEA University of Fashion and Technology (BUFT), Nishatnagar (West part of Uttara), Turag, Dhaka-1230, Bangladesh

ID 362 A Critical Review of AI-Driven Lean Manufacturing Systems in RMG Industry of Bangladesh
Jahid Hasan Shuvo, Department of Marketing, Independent University, Bangladesh
Farhan Rahman Fahim, Department of Management Information System, Independent University, Bangladesh

ID 382 A Conceptual Framework for the Implementation of Lean Manufacturing in the RMG Sector of Bangladesh
Md. Shahidul Islam, Department of Mechanical and Production Engineering (MPE), Islamic University of Technology (IUT), Gazipur, Bangladesh
Shamsuddin Ahmed, Department of Mechanical and Production Engineering (MPE), Islamic University of Technology (IUT), Gazipur, Bangladesh

ID 448 Lean Implementation and Bottleneck Identification through Value Stream Mapping in the Garments Industry
Ferdous Ahmed Rana, Md. Olid-Al-Bashara and Mst. Mitu Khatun, Department of Industrial Engineering BGMEA University of Fashion & Technology Dhaka 1230, Bangladesh
Md Alamgir Hossain and Nazia Muhsin, Department of Industrial Engineering BGMEA University of Fashion & Technology Dhaka 1230, Bangladesh

ID 473 Bottleneck Identification and Capacity Improvement of the Tube Processing Section in RAC Manufacturing: A VSM–SMED–Capacity Modeling Approach

Ashraful Islam, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh
Khandaker Faysal Ahammed, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh
Salman Monir, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh

3:00 – 4:30 pm, Sunday, December 21 **Onsite Room 8**

Session Chair: Dr. Md. Harun – Or – Rashid, WUB

Simulation, Optimization and Automation

ID 369 Enhancing ECG Heart Rate Measurement Accuracy through Advanced Noise Cancellation Techniques
Tanzim Hossain Oyshi, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Protik Barua, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Md. Sohan Sheikh, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Md Imran Hosen, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Rajib Hasan, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Ifthekhar Hussain, Mechatronics and Industrial Engineering, Chittagong University of Engineering and Technology

ID 289 Design and Development of an Autonomous Firefighting Robot: Fire Detection and Extinguishing in Hazardous Environments
Sumaiya Shahria, Department of Mechatronic Engineering, Khwaja Yunus Ali University, Enayetpur, Bangladesh
Subrota Sarker Rabin, Department of Mechatronic Engineering, Khwaja Yunus Ali University, Enayetpur, Bangladesh
Md. Shaon Sarker, Department of Mechatronic Engineering, Khwaja Yunus Ali University, Enayetpur, Bangladesh

ID 58 Heat Transfer Performance Properties of a Hybrid Nanofluid (Cu-Al2O3/Water) Employed as a Coolant in a Car Radiator
Mohd.Tasnim Tawsif Chy, Department of Mechanical Engineering, Chittagong University of Engineering and Technology, Chattogram, Bangladesh
Muhammad Mostafa Kamal Bhuiya, Department of Mechanical Engineering, Chittagong University of Engineering and Technology, Chattogram, Bangladesh
Sadia Nourin Mim, Department of Mechanical Engineering, Chittagong University of Engineering and Technology, Chattogram-4349, Bangladesh
Rupak Saha, Department of Mechanical Engineering, Chittagong University of Engineering and Technology, Chattogram-4349, Bangladesh
Itquan Hossen, Department of Mechanical Engineering, Chittagong University of Engineering and Technology, Chattogram-4349, Bangladesh
Ahmad Abdullah Mujahid, Department of Mechanical Engineering, World University of Bangladesh, Dhaka-1230, Bangladesh

ID 361 Development of an Adaptive Speed Control System for Vehicles on Rough Surfaces
Abdullah Al Rakib, Department of Mechatronics Engineering, Khulna University of Engineering and Technology (KUET), Khulna-9203, Bangladesh
Asief Javed, Department of Mechatronics Engineering, Khulna University of Engineering and Technology (KUET), Khulna-9203, Bangladesh

ID 414 Development of a Real-Time Radial Scanning System for Object Surveillance
Md Muslim Uddin, Department of Electrical & Electronic Engineering, World University of Bangladesh, Dhaka, Bangladesh
MD: Sharif Uddin Shajib, Lecturer, Department of Electrical & Electronic Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 426 The Study of the Green Synthesis of Y-Doped TiO_2 Nanoparticles for enhancing the performance of Solar Cells
Md. Rasel Islam, RUET, Rajshahi, Bangladesh

ID 428 Design & Implementation of an Assistive Walking Stick for the Visually Impaired
Md. Kamrul Islam Bipul, Md. Ali Imran Khan, Rifat Ul Alam and K.M. Mahedi Hassan Fahim, Department of Mechanical Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

3:00 – 4:30 pm, Sunday, December 21 **Virtual Zoom Room 9**

Session Chair: Ufuk Cebeci, Department of Industrial Engineering, Istanbul Technical University Macka, Turkey
Session Co-Chair: Kazi Nusrat Islam, Department of Mathematical and Physical Sciences, East West University, Dhaka

Automation, Robotics and Autonomous Systems

ID 18 Smart 6th Generation Port (6gp): A Futuristic Perception
Khandakar Akhter Hossain, Vice Chancellor, Bangladesh Maritime University, Dhaka, Bangladesh

ID 63 Design and Implementation of a Solar-Powered Semi-Autonomous Lawn Mower Using Arduino and Bluetooth Control
Md. Mizanur Rahman Mohsin, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Anik Biswas, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 67 A Cost-Effective Automated Indoor Environment and Fire Surveillance System for Smart Homes
Md. Nayeem Uddin Biswas, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh
Anik Biswas, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 69 Development of a Microcontroller-Based Bluetooth Vehicle Using an Android App
Anik Biswas, Mechatronics Engineering, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 300 Adaptive Reinforcement Learning with Control Barrier Functions for Safe State Avoidance in Discrete Event Systems
Md Nur-A-Adam Dony, Department of Electrical and Computer Engineering, Tennessee Technological University, Cookeville, TN 38505, USA

Md Ebrahim Khallil, Department of Electrical and Computer Engineering, Tennessee Technological University, Cookeville, TN 38505, USA

ID 384 Genetic Algorithm Enhanced PID Parameter Tuning for Non-Linear Dynamic Systems
Ifthekhar Hussain, Department of Mechatronics and Industrial Engineering, Chittagong University of Engineering and Technology, Bangladesh
Protik Barua, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Rajnita Barua, Department of Electrical and Electronic Engineering, Chittagong University of Engineering and Technology, Chattogram, Bangladesh
Tanjimul Islam Shovon, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Tanzim Hossain Oyshi, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh

December 21, 2025 (Sunday) - Session: 5:00 – 7:00 pm

5:00 – 7:00 pm, Sunday, December 21 **Onsite Room 1**

Session Chair: Prof. Md. Quamruzzaman (EEE, Dean, WUB)
Session Co-Chair: Abdullah Mohd. Sharif (Business, WUB)

Simulation, Optimization and Productivity Improvement

ID 56 Optimizing Inventory Management for Furniture Retail Sales Using Markov Chain Modeling: A Cost-Balancing Approach
S. H. Sakib and Md. Shahidul Islam, Industrial & Production Engineering Department, Shahjalal University of Science and Technology, Sylhet, Bangladesh

ID 81 Optimizing Canteen Service Operations Through Dynamic Staffing: A Queueing Theory Application at a University Campus
Arpita Debnath, Military Institute of Science and Technology, Bangladesh

ID 89 A Sustainable Supply Chain Optimization Model for the Garment Industry Using MILP and Life Cycle Assessment
Raisha Ferdousi Maha, Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Bangladesh
Rifah Tasnia Raida, Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Bangladesh

ID 131 CFD Investigation and Analysis of Multiphase Flow to Understand the Flow Behavior at Different Pipe Junctions
Md Alamgir Hossain and Nazia Mohsin, Department of Industrial Engineering, BGMEA University of Fashion and Technology, Dhaka, Bangladesh
Chokder Shahriar Sharif and MD. Muhaimenul Islam, Department of Mechanical Engineering, Sonargaon University, Dhaka, Bangladesh

ID 151 A Comprehensive Review of the Formula 1 Drag Reduction System (DRS): From Aerodynamic Theory to On-Track Efficacy
Md. Shahriar Islam Sium, Department of Industrial & Production Engineering, Jashore University of Science and Technology, Jashore, Bangladesh
Mahmudul Islam Rohan, Department of Industrial & Production Engineering, Jashore University of Science and Technology, Jashore, Bangladesh

ID 179 Numerical Evaluation of Laminar Flow Heat Transfer Behavior in Triangular Pin-Fin Array Configurations
Joyanta Roy Chowdhury and Rifat-Ul-Alam, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh

ID 441 Numerical Investigation of NACA4412 Aerofoil Aerodynamics for Wind Turbines in Bangladesh Using RANS SST Model
Anika Nawar, Institute of Education and Research (IER), University of Dhaka, Dhaka, Bangladesh
Jowad Md Madha, Institute for Flow in Additively Manufactured Porous Media, Heilbronn University, Germany and Institute of Education and Research (IER), University of Dhaka, Bangladesh
Wenbo Yang, Institute of Engineering Thermophysics, CAS, VS, Department of Energy and Power, Tsinghua University, Beijing, China

ID 486 Parameter Optimization for Reducing Machining Time in Wire-EDM Machining of DanCut 345 Alloy Using Taguchi Method and ANOVA
Atanu Barua, Wazed Ibne Noor, Md. Bayazid Ahmed, MD Solaman, and Arfan Ullah, Department of Mechanical Engineering, University of Creative Technology Chittagong, Chittagong, Bangladesh

5:00 – 7:00 pm, Sunday, December 21 **Onsite Room 2**

Session Chair: Prof. Dr. Md. Mizanur Rahman (ME, WUB)
Session Co-Chair: Dr. Leevesh Kumar, Associate Professor, Department of Civil Engineering, WUB

Simulation, Optimization and Artificial Intelligence

ID 182 Finite Element Analysis of Crank Arm Fatigue Life Under Uniaxial Load Conditions
Rifat Ul Alam and Joyanta Roy Chowdhury, Department of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna Bangladesh

ID 186 Optimizing Garment Assembly Line Efficiency Using Ranked Positional Weight and Evolutionary Algorithms: A Comparative Analysis
Kazi Fahim, Industrial and Production Engineering Department, National Institute of Textile Engineering and Research, Dhaka, Bangladesh
Sharafat Hossain, Industrial and Production Engineering Department, Ahsanullah University of Science & Technology, Dhaka, Bangladesh
Joyanta Debnath, Industrial and Production Engineering Department, Ahsanullah University of Science & Technology, Dhaka, Bangladesh
Nurul Ahad Choudhury, School of Industrial Engineering and Management, Oklahoma State University, Stillwater, OK, USA

ID 187 Optimization of Load Balancing and Redundancy Mechanisms in Firewall Clustering for High Availability Industrial Network Systems
Ovejite Saha, Md Anisuzzaman and Musfique-Us-Salehin Arnob, Master of Science in Cyber Security, World University of Bangladesh, Dhaka, Bangladesh

ID 207 Improvement of Overall Efficiency Using Yamazumi Chart and Heuristic Techniques of a Leather Product Industry
Md. Shadman Hossain, Executive, Environment, Health and Safety, American and Efird Bd Ltd., B.Sc. in Industrial and Production Engineering Mechanical and Production Engineering Department, Ahsanullah University of Science & Technology, Dhaka, Bangladesh
Tanvirul Islam, Mechanical and Production Engineering Department, Ahsanullah University of Science & Technology, Dhaka, Bangladesh
Md. Irtisham Latif, Executive, Supply Chain, ACI Limited, B.Sc. in Industrial and Production Engineering, Mechanical and Production Engineering Department, Ahsanullah University of Science & Technology, Dhaka, Bangladesh

ID 235 Transparency-Oriented Digital Rental Ecosystem (T-ODRE Model) for Economical Equity and Sustainability
Shahriar Hossain, BRAC University, Bangladesh

ID 236 Hot-Cracking Susceptibility of Fe-C-Mn Steels: Insights from MatCalc Scheil Simulation
Md. Fardous Hasan Bappy, Materials Science and Engineering Department, Rajshahi University of Engineering and Technology, Bangladesh
Abdullah-Al-Mazed Khan, Materials Science and Engineering Department, Rajshahi University of Engineering and Technology, Bangladesh
Md. Emran Hossain, Mechanical Engineering Department, Chittagong University of Engineering and Technology, Chittagong, Bangladesh
Arnika Tabassum Arni, Materials Science and Engineering Department, Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh

ID 288 SOP-Driven Improvements in Efficiency, Quality and On-Time Delivery: Evidence from Bangladesh's RMG Sewing Industry
Md. Tanjid Hossen Irfan, Md. Ismail Hossain, Md. Zaid Hossain, Nasif Morshed and Md. Saiful Islam Seam, Department of Industrial Engineering and Management, Khulna University of Engineering and Technology, Khulna 9203, Bangladesh

ID 491 Data-Driven Air Filter Performance Tracker
Jabir Ibn Bashar and Rafia Jannat Raka, Industrial and Production Engineering Department, Faculty of Engineering, American International University-Bangladesh Dhaka, Bangladesh

5:00 – 7:00 pm, Sunday, December 21 Onsite Room 3

Session Chair: Prof. Dr. Engr. Rabindra Ranjan Saha, PhD, PEng (CE), WUB
Session Co-Chair: Ruman Tasnim (MTE, WUB)

Sustainability, Green Systems and Energy

ID 123 Impact of Green Supply Chain Management on the Ready-Made Garments Sector
Mustafizur Rahman, Computational Science Program, The University of Texas at El Paso, Texas, USA
Md. Mahafuj Anam Murad, Sifat Ajmeer Haque and Shoyeb Muhammad, Department of Industrial and Production Engineering, Jashore University of Science and Technology, Jashore, Bangladesh
Tzu-Liang (Bill) Tseng, PhD, Industrial, Manufacturing, and Systems Engineering (IMSE), The University of Texas at El Paso, Texas, USA

ID 128 Integrative Assessment of Dyeing Techniques in Textile Engineering: Comparative Study on Durability, Economic Viability, and Visual Impact of Garment and Fabric Dyeing
Dip Das, Salin Asfi, Md. Rayhan, Farhan Tanvir, Khan Md Arafat Reza, and Farjana Rahman, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 327 A Review on Vehicle-to-Grid (V2G) Technologies Towards Smart Grid for Distribution Networks
Md. Monirul Islam, Department of Electrical and Electronic Engineering, Pabna University of Engineering Technology, Pabna, Dhaka, Bangladesh
T.H.M. Sumon Rashid, Assistant Professor, Department of Electrical and Electronic Engineering, Pabna University of Engineering Technology, Pabna, Dhaka, Bangladesh
Md. Hanif Reza, Department of Electrical and Electronic Engineering, Pabna University of Engineering Technology, Pabna, Dhaka, Bangladesh
Md. Ariful Islam, Department of Electrical and Computer Engineering, Lamar University, Cookville, USA
Md. Ebrahim Khallil, Department of Electrical and Computer Engineering, Tennessee Technological University, Cookeville, Tennessee, USA

ID 334 Effects of Hydrogen Blending Ratio on the Combustion Performance of the DACRS Combustor
Wenbo Yang, Institute of Engineering Thermophysics, CAS, VS, Department of Energy and Power, Tsinghua University, Beijing, China
Anika Nawar, Institute of Education and Research (IER), University of Dhaka, Dhaka, Bangladesh
Jowad Md Madha, Institute for Flow in Additively Manufactured Porous Media, Heilbronn University, Germany
Institute of Education and Research (IER), University of Dhaka, Bangladesh

ID 338 Fabrication and Mechanical Evaluation of Hybrid Composites Using Pineapple Leaf Fiber and Water Hyacinth Filler
Thasina Takia Juthy, Materials & Metallurgical Engineering Department, Chittagong University of Engineering and Technology, Chattogram, Bangladesh
Farhan Shahriar Islam, Materials & Metallurgical Engineering Department, Chittagong University of Science and Technology, Chattogram, Bangladesh

ID 342 Theoretically Development and Deployment of an Intelligent Energy Management System to Optimize Power Use in Urban Areas
Farhana Latif, Senior Lecturer, Electrical & Electronics Engineering Department, World University of Bangladesh, Dhaka, Bangladesh
Simum Hasan Fuad, Electrical & Electronics Engineering Department, University of Asia Pacific, Dhaka, Bangladesh

ID 387 Web-based Simulation of Delivery Carbon Footprints for SMEs in Bangladesh: An Eco-friendly and Fuel Optimization Framework for Sustainable Growth
Erfan Khan, BRAC University, Bangladesh

ID 440 Payload-Aware Energy–Time Optimization of UR10 Trajectories via Hybrid NSGA-II–MOPSO
Md. Mahmudul Hasan Ratul, Shaikh Shehab Ahamed and Rashid Abrar Tanzil, Department of Industrial Engineering and Management, Khulna University of Engineering and Technology, Khulna, Bangladesh

5:00 – 7:00 pm, Sunday, December 21 **Onsite Room 4**

Session Chair: Prof. Dr. Mamun Habib, IUB
Session Co-Chair: Dr. Mahmudur Rahman (MPH, WUB)

Digital Manufacturing, Industry 4.0 and IoT

ID 19 Assessing Impact of Environmental Enablers in Digital Readiness for Industry 4.0 in Healthcare: Using a hybrid PLS-SEM and ISM Method
MD Faiaz Zaman Dehan, Kazi Md. Tanvir Anzum, Jannatul Ferdaus Disha, MD Mahfuzur Rahman Masum and Istiak Mahmud, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna-9203, Bangladesh

ID 37 Digital Twin-Driven Optimization on Production & Maintenance in The Emerging Steel Industry of Bangladesh: A Lean Based Approach
Quazi Monjur E-Elahi, Ridika Islam, Umme Ayesha Rahman and Jubayda Sultana Sezeel, Department of Mechanical and Production Engineering Ahsanullah University of Science and Technology (AUST), Dhaka, Bangladesh

ID 53 Real-time environment monitoring embedded system in RMG factories to emphasize awareness about workers' health safety
Mim Khatun, Shihab Molla, and Mohammad Noor Nabi, Atish Dipankar University of Science and Technology, Dhaka, Bangladesh
Saiful Islam, Esmail Hossain Emon, and Shaikh Md. Mominul Alam, Bangladesh University of Textiles, Dhaka, Bangladesh
Md. Fyzul Hasan, Military Institute of Science and Technology, Dhaka, Bangladesh

ID 190 Modeling the Impact of APTs on Smart Factory Performance: An Operations Management Perspective
Md Anisuzzaman, Ovejite Saha and Musfique-Us-Salehin Arnob, Master of Science in Cyber Security, World University of Bangladesh, Dhaka, Bangladesh

ID 312 Industry 4.0 Skills Gap: A Critical Review of Academic Competencies for a Digital Workforce
Jannatul Ferdoush Oishy, Department of International Business, Independent University, Bangladesh
Tamim Forhad Shuvo, Department of Finance, Independent University, Bangladesh
Md. Mamun Habib, Professor & Department Head, Department of General Management, Independent University, Bangladesh
Farzana Chowdhury, Senior Lecturer, Department of General Management, Independent University, Bangladesh
Nahida Akhter Naiema, Lecturer, Department of General Management, Independent University, Bangladesh

ID 316 Advanced Supply Chain Monitoring in Fashion Retail: An Industry 4.0 Approach Integrating IoT, Data Analytics, and Real-Time Tracking
Mohammad Fazle Rabbe, Department of Textile Engineering Management, Bangladesh University of Textiles (BUTEX), 92, Shaheed Tajuddin Ahmed Avenue, Tejgaon Industrial Area, Dhaka – 1208, Bangladesh
Abhisheke Chakrabortty, Budapest University of Technology and Economics, Budapest, Hungary
Aditya Bhattacharjee, Lecturer, Department of Textile Engineering, Port City International University, Nikunja Housing Society, South Khulshi, Chattogram-4225, Bangladesh
Bebe Fatema Bristy, Lecturer, Department of Textile Engineering, BGMEA University of Fashion and Technology (BUFT), Nishatnagar (West part of Uttara), Turag, Dhaka-1230, Bangladesh

ID 341 Smart UV-Sensing E-Textiles for Real-Time Sun Exposure Monitoring and Skin Cancer Prevention: Mechanisms, Challenges, and Industry 4.0 Prospects
Tanzim Hossain Oyshi, Mohammad Bellal Hoque, Md. Mostafizur Rahman, Masuma Jahan Tanjila, Md. Imran Hosen and Umma Ayman, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Rajib Hasan, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 343 Prioritizing Distributed Denial of Service (DDoS) Attack Factors in Digital Twins Using AHP Weighted TOPSIS
S M Julfiker Zahid, Industrial Engineering and Management Department, Khulna University of Engineering and Technology, Khulna, Bangladesh
Kazi Omar Faruk, Industrial Engineering and Management Department, Khulna University of Engineering and Technology, Khulna, Bangladesh

ID 419 Digital Manufacturing and the Synergy of Industrial Revolutions 4.0 to 6.0
Muhammad Adnan, Lecturer in Project Management, Faculty of Computing, Engineering, and the Built Environment (CEBE), Birmingham City University, Birmingham, UK

5:00 – 7:00 pm, Sunday, December 21 **Onsite Room 5**

Session Chair: Professor Dr. Selim Ahmed, Dean, Faculty of Business Studies, World University Bangladesh

Engineering Management and Project Management

ID 68 Environmental and Socio-Economic Implications of Landfill Operations: A Case Study
Abdal Raziq Zohaib, ARZ Consulting Limited, Bangladesh

ID 80 Climate Change and Its Implications for Small- and Medium-Scale Construction Project Management
Lailo Akter, Shahla Shumi, Md Razu Ahmmed and Abu Talha, World University of Bangladesh, Bangladesh

ID 227 A Multi Skill-Based Project Scheduling and Materials Ordering Problem under Constrained Resources
Md. Limonur Rahman Lingkon, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Md. Asadujjaman, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

ID 169 Reducing Lead Time in Small-Scale Iron Assembly Operations: A Case Study on Value Stream Mapping with Statistical Validation
Sanjoy Sutradhar, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
Bayzid Mahmud, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh
A H M Abdul Moudood, Department of Industrial Engineering, BGMEA University of Fashion & Technology, Dhaka 1230, Bangladesh

ID 302 Determinants of Remittance Contraction: A Descriptive and Empirical Review of Bangladesh
Marzan Kazi Rubye, BBA Student, Faculty of Business Administration, Department of Human Resource Management, American International University-Bangladesh
MM Obaidul Islam, Professor, Department of Operations and Supply Chain Management, Faculty of Business Administration, American International University-Bangladesh
Bikash Barua, Associate Professor, Department of Operations and Supply Chain Management, Faculty of Business Administration, American International University-Bangladesh

ID 314 Relationship between Employee Engagement and Adherence to Workplace Safety Protocols: A Study on Unimart Limited at Dhanmondi
Bipro Basak, Student of PGDHRM Program, BIM, Dhaka, Bangladesh
Md. Mamunur Rashid, Director, IQAC and Progam Director, DPQM and Head, Production Management Division, Bangladesh Institute of Management (Dhaka Campus), Bangladesh

ID 430 Predicting Construction Cost Using Simple Machine Learning Techniques: A Case-Based Approach
Md Asiful Islam, Project Engineer, INTERTEK PSI, USA
Md Nazmul Alam, Syed Salman Saeed, and Md Tanvir Siraj, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
Md. Ayatullah Nawaz, Department of Civil Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
Mahbubur Rahaman, Department of Industrial and Production Engineering, Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh

ID 436 Using Machine Learning to Forecast Water Demand in Urban Households: A Case Study Approach
Aninda Avi, Department of Mechanical Engineering, Rajshahi University of Engineering and Technology, Rajshahi, Bangladesh
Mansib Hussam, Syed Salman Saeed, and Md. Tanvir Siraj, Department of Mechanical Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh
Tasnia Hasan, and Md. Ayatullah Nawaz, Department of Civil Engineering, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

5:00 – 7:00 pm, Sunday, December 21 Onsite Room 6

Session Chair: Prof. Dr. Golam Kader (ME, KUET)

Simulation, Optimization and Productivity Improvement

ID 298 Profit Optimization of a Small Garment Manufacturing Enterprise Using Linear Programming: A Case Study
Mahmodur Rahman and Md. Mohibul Islam, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology Rajshahi-6204, Bangladesh

ID 315 Atomistic Simulation of mechanical properties and fracture mechanisms in $NbSe_2$ for Flexible Manufacturing, and Sustainable Engineering Applications
Sanjay Kushal Biswas, Mechanical Engineering Department, Bangladesh University of Science and Technology, Dhaka, Bangladesh
Pratic Sarkar Sourav, Mechanical Engineering Department, Bangladesh University of Science and Technology, Dhaka, Bangladesh
Bishwajit Kar, Department of Aerospace Engineering and Mechanics, University of Alabama, Tuscaloosa, USA

ID 363 A Bi-Objective Optimization Model for Real-World Task Allocation in RMG Sewing Lines: Capacity Maximization and Minimization of Capacity Loss
Md. Khairul Basar, Rejuan Siddiki Rejvi, Sheik Md Al Arifin, Md. Afzal Hossain and Rezwanul Islam, Department of Industrial and Production Engineering, Shahjalal University of Science and Technology, Sylhet, Bangladesh

ID 364 Emotion Recognition and Continuous Mental Health Monitoring Using Intelligent E-Textiles
Kathika Majumder, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Md. Sharif Uddin Shajib, Department of Electrical & Electronic Engineering, World University of Bangladesh, Dhaka, Bangladesh
Tanzim Hossain Oyshi, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Moubassira Akter, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh

ID 368 Enhancing ECG Heart Rate Measurement Accuracy through Advanced Noise Cancellation Techniques
Tanzim Hossain Oyshi, Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Protik Barua, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Md. Sohan Sheikh and Md Imran Hosen, 1Department of Textile Engineering, World University of Bangladesh, Dhaka, Bangladesh
Rajib Hasan, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh
Ifthekhar Hussain, Mechatronics and Industrial Engineering, Chittagong University of Engineering and Technology, Bangladesh

ID 375 Evaluating AI's Impact on Bangladesh's Textile and Garment Industry

Jahid Hasan Shuvo, Department of Marketing, Independent University, Bangladesh
Farhan Rahman Fahim, Department of Management Information System, Independent University, Bangladesh
Md. Fahim Bin Amin, Department of Finance, Independent University, Bangladesh

ID 416 Performance analysis of 16-fsk modulator and demodulator over awgn channel parameters
Md Hasibul Hasan, Md. Quamruzzaman, and Md. Sharif Uddin Shajib, Department of Electrical and Electronics, World University of Bangladesh, Dhaka, Bangladesh

5:00 – 7:00 pm, Sunday, December 21 **Onsite Room 7**

Session Chair: Professor Dr. Santus Kumar Deb, Department of Tourism and Hospitality Management, University of Dhaka
Session Co-Chair: Dr. Md Amran Hossen, CSE, WUB

Entrepreneurship and Innovation

ID 284 Fostering Entrepreneurial Mindsets and Innovation: The Role of University Environments in Shaping Student Entrepreneurship
Tamim Forhad Shuvo, Department of Finance, Independent University, Bangladesh
Jannatul Ferdoush Oishy, Department of International Business, Independent University, Bangladesh
Md. Shiraton Nobi, Department of Finance, Independent University, Bangladesh
Seeratus Sabah, Department of General Management, Independent University, Bangladesh
Shayla Tazminur, Department of General Management, Independent University, Bangladesh

ID 214 Determinants of Entrepreneurial Intention among University Graduates in Bangladesh
Sadman Sakib, University of Saskatchewan, Canada
Yeasir Arafat, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh

ID 487 Low Cost Techniques to Protect Industry Situated Besides the River
Md. Lutfor Rahman, Ex- Director General, River Research Institute, Faridpur, Bangladesh

ID 488 MediRide: An Integrated Mobile Platform for Optimizing Emergency Medical Response in Bangladesh
Talha Jubayer, Arnab Acharjee, Samia Islam, Md. Hasin Abrar Soumik, Maisha Fariha Mithila, and Md. Ariful Haque, Department of Industrial and Production Engineering, Rajshahi University of Engineering and Technology, Rajshahi-6204, Bangladesh

Manufacturing and Automation

ID 290 Developing a Framework to SMED (Single Minute Exchange of Die) Implementation in Garment Section
Riaz Uddin Raj, Department of Industrial & Production Engineering, Bangladesh University of Textiles, Dhaka, Bangladesh
Jannate Nur Ridita Alam Aanchal, Department of Industrial & Production Engineering, Bangladesh University of Textiles, Dhaka, Bangladesh

ID 321 Machining Time Dependent Chip Behavior and Hole Accuracy in Drilling Aluminum 5083 Alloy
Humayra Jannat Tuba, Industrial Engineering and Management Department, Khulna University of Engineering and Technology, Khulna, Bangladesh
Nazma Sultana, Associate Professor, Department of Industrial Engineering and Management, Khulna University of Engineering and Technology, Khulna, Bangladesh
Nizam Uddin Ahmed, Industrial Engineering and Management Department, Khulna University of Engineering and Technology, Khulna, Bangladesh

ID 379 Stochastic Modeling of Throughput-Quality Dynamics in Labor-Intensive Manufacturing: A Comparative Analysis of Operator Fatigue and Process Instability
Md. Muqtadir Fuad, Abdullah Al Mazid, Md. Istiak Adnan and Khalid Ammar, Industrial and Production Engineering Department, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

ID 489 Performance analysis of a smart compact Land Plow, Seed Sower and Water Sprinkler Agri-Machinery System
Zahid Ahsan, Department of Mechanical Engineering, International University of Business Agriculture and Technology, Dhaka, Bangladesh
Sajon Chandra Biswas, Department of Mechanical Engineering, City University, Dhaka, Bangladesh
Samsul Islam, Institute of Energy Engineering, Dhaka University of Engineering & Technology, Gazipur, Bangladesh
Md. Mizanur Rahman, Department of Mechatronics Engineering, World University of Bangladesh, Dhaka, Bangladesh

5:00 – 7:00 pm, Sunday, December 21 **Onsite Room 8**

Session Chair: Dr. Swapan Kumar Sarkar, (Chemical, WUB)
Session Co-Chair: Dr. Jannatul Naeem, CSE, WUB

Sustainability, Green Systems and Energy

ID 333 Gas Demand Forecasting of Different Companies in Bangladesh - A Case Study
Jannatul Ferdous Mim and Sharna Sarker, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology Rajshahi 6204, Bangladesh
MD Ruman Ahammed, Saifur Rahman Bhuiyan, MD Razaul Kabir Rizve and MD Shohan Sagor, Department of Industrial and Production Engineering, National Institute of Textile Engineering & Research, Nayarhat, Savar, Dhaka, Bangladesh

ID 442 From 2D Layers to Flexible Devices: A Comprehensive Review on MXene-Based Supercapacitors
Md. Abtahi Islam Fahim, Md Rasel Islam, Md. Al-Muktadir Ratul, Md. Abdulla Al Masud, Sarker Maahi Mosharrof, Md. Al-Muktadir Ratul and Pabitro Prosad Mondal, Materials Science and Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh

ID 450 High-Ionic Conductive Polymer Electrolytes for Metal-Doped MoS_2 Flexible Supercapacitors
Nafees Ibne Alam, Materials Science and Engineering, Rajshahi University of Engineering & Technology, Bangladesh
Angshu Ghosh, Materials Science and Engineering, Rajshahi University of Engineering & Technology, Bangladesh
Md. Rasel Islam, Materials Science and Engineering, Rajshahi University of Engineering & Technology, Bangladesh
Debraj Nath, Materials Science and Engineering, Rajshahi University of Engineering & Technology, Bangladesh
Md. Maruf Ripon, Materials Science and Engineering, Rajshahi University of Engineering & Technology, Bangladesh
Kazi Mamunur Rahman Rifat, Materials Science and Engineering, Rajshahi University of Engineering & Technology, Bangladesh

ID 463 Smart Waste Segregation System Using Multi-Sensor Classification
Hasibul Islam Ashik, Sonia Akhter, Emonur Rahman Fahim, Md Omar Faruk, R. Rafiul Haque Ayon, Md. Maruf Ahammed Asif and Safayet Bin Siddik Shakhar, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh

ID 468 Property Enhancement of Starch Based Bio-composite Film Using Reinforcements & Additives: A Comprehensive Review
Sabiqune Nahar Niti, Department of Materials Science and Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Maisha Chowdhury Karabi, Department of Materials Science and Engineering, Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh
Shaira Anowara, Department of Materials Science and Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh
Maliha Rahman, Department of Materials Science and Engineering, Rajshahi University of Engineering & Technology, Rajshahi-6204, Bangladesh

ID 477 A Machine Learning Based Study on Climatic Influences Affecting Solar PV Power Output
Mithun Pal, Department of Electrical and Electronic Engineering, European University of Bangladesh, Dhaka, Bangladesh
ID 474 Project Management Challenges and Control Strategies in Grid Connected Solar Photovoltaic Projects: A Scoping Review (2015–2025)
Nashowah Afif Nuha, Department of Electrical and Electronic Engineering, BRAC University, Dhaka, Bangladesh
Md Rayhan Habib, Department of Electrical and Electronic Engineering, BRAC University, Dhaka, Bangladesh
Touhidur Rahman, Professor, Department of Electrical and Electronic Engineering, BRAC University, Dhaka, Bangladesh

5:00 – 7:00 pm, Sunday, December 21 **Virtual Zoom Room 9**

Session Chair: Dr. Riaz Uddin Raj, Department of Industrial & Production Engineering, Bangladesh University of Textiles, Dhaka
Session Co-Chair: Dr. Nazrul Islam, IEOM Canada

Engineering Management and Project Management

ID 127 Construction model based on Lean construction, MRP and SPL to increase compliance in a construction company
Shilary Priscilla Mosquera-Cerón, Facultad de Ingeniería, Universidad de Lima, Peru
Yelitza Shirley Rojas-Rojas, Facultad de Ingeniería, Universidad de Lima, Peru
Wilson David Calderon-Gonzales, Research Professor, Facultad de Ingeniería, Universidad de Lima, Peru

ID 100 Modern Safety Suit Design: Innovating Protection for the Future Workforce
Khalid Zaman Mumit, Jashore University of Science and Technology, Bangladesh

ID 291 Enhancing Operational Efficiency in an Animal Feed Pelleting Line Using Preventive Maintenance and Standard Work
Fabiana Alva-Gayoso, Piero Germana-Cavero, Carlos Urbina-Rivera and Manuel Montoya-Ramírez, Carrera de Ingeniería Industrial, Universidad de Lima, Lima, Peru

ID 286 Quantifying Traffic Delay on Major Corridors of Chattogram City Using Google Maps Travel-Time Data
Addiat Shaharia, Naimul Hasan, Rifat Jahan Sara and Lecturer Sajid Hasan (Department of Civil Engineering, Southern University Bangladesh, Chattogram) (Lecturer, Department of Civil Engineering, Southern University Bangladesh)

ID 417 A Review Paper on E-Business Adaptability and Probabilistic Risk Assessment
Mehayrun Nesa Shupti, Md. Saiful Islam, and Jahid Hasan Ashik, Department of Industrial Engineering and Management, Khulna University of Engineering & Technology, Khulna, Bangladesh

ID 439 Maintenance model based on 5s and TPM to increase productivity in an SME in the food and beverage sector
Marco Antonio Mostacero-Vilca, Facultad de Ingeniería, Universidad de Lima, Perú
Joel Jefferson Vilca-Celi, Facultad de Ingeniería, Universidad de Lima, Perú
Roman Manuel Balta-Mansilla, Research Professor, Facultad de Ingeniería, Universidad de Lima, Perú

Lean Six Sigma and Operations Excellence

ID 156 Model for improving Efficiency of Production Equipment Related to the OEE indicator through the Application of SMED, TPM and 5S in an SME in the textile sector
Gabriel O. Cortez Falla, Xiomara K. De La Cruz Arteaga, and Richard N. Meza Ortiz, Universidad de Lima, Peru

ID 317 Inspection Machine Productivity Improvement by Lean Manufacturing Technique: A Case Study of an Automotive Parts Company in Nakhon Ratchasima
Thanapong Sa-ngiamsoongnoen, System Engineering, Suranaree University of Technology, Nakhon Ratchasima, Thailand

7:00 – 10:00 pm, Sunday, December 21 **Virtual Zoom Room 9**

Session Chair: Dr. Md. Mahfujul Haq, Ahsanullah University of Science & Technology, Dhaka, Bangladesh
Session Co-Chair: Dr. Nazrul Islam, IEOM Canada

Manufacturing, Assembly and Design

ID 44 Production Cost Minimization by Optimal Number of Workforce Reduction in Apparel Manufacturing
Shibbir Ahmad and Md. Kamruzzaman, Department of Mechanical Engineering, Dhaka University of Engineering and Technology (DUET), Dhaka, Bangladesh

ID 54 The Systematic Design and Manufacturing of 'Mr. Money Manager - An Advanced Money Management Device
Mubtasim Rubaet, Md Shoaib Mahmud, Mosleh Uddin Ahmed Mukit, Md. Soadul Haque Mithu, Mehrab-Al-Islam and Md. Istiaque Ahammed Sakib Department of Industrial and Production Engineering, Military Institute of Science and Technology. Dhaka-1216, Bangladesh

ID 299 Fabrication and Characterization of Aluminum Metal Matrix Composites Reinforced with MgO and Bamboo Leaf Ash
Mohammad Farhan Anis Ibrahim, Abdullah Arshad, Sayan Paul and Zarin Subah, Department of Mechanical Engineering, Chittagong University of Engineering and Technology, Chattogram-4349, Bangladesh

ID 319 Multi-Aspect CNC Process Parameter Optimization for Turning AISI 4140 Steel in Wet Condition Using Grey Taguchi Technique and Genetic Algorithm
Md. Limon Mia, Md. Rashedul Alam, Md. Din Islam, and Md. Ariful Islam, Associate Professor, Department of Industrial & Production Engineering, Rajshahi University of Engineering & Technology, Kazla, Rajshahi-6204, Bangladesh

ID 449 Characterization of Wire Arc Additive Manufacturing: Geometrical Configurations, Mechanical Properties, and Process Parameter Analysis
Samina Akhter Shenjuty, Sanzida Arefin Shimu, M. Rezwan, Imtiaz Ahmed Choudhury, Mohammad Sarwar Morshed, and Md. Mahfujul Haq, Research Assistant, Susleather Project, Department of Mechanical and Production Engineering, Ahsanullah University of Science and Technology, Dhaka, Bangladesh

Supply Chain and Logistics

ID 311 Improvement of OTD in A Commercial Distribution Center Applying Poka Yoke, Work Standardization and Forecast
Bellido Tumba Yajel Walter, Carrera de Ingeniería Industrial, Universidad de Lima, Lima - Perú
Urbina Rivera Carlos Medardo, Universidad de Lima, Lima - Perú
Avalos Ortecho Edilberto Miguel, Universidad de Lima, Lima - Perú

ID 329 Prioritizing and Mapping Drivers of Digital Transformation Toward Industry 5.0 in Humanitarian Logistics
Syed Md Sadman Rafid, Department of Industrial and Systems Engineering, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia
Golam Sakaline, Department of Industrial and Systems Engineering, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia
Sadia Waseem, Department of Industrial and Systems Engineering, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia
Md Farhan Tahmid Hossain, School of Business & Economics, North South University, Dhaka, Bangladesh

ID 373 Determinants of CODP Positioning and Their Effects on Supply Chain Outcomes: An Empirical Investigation in the Furniture Sector
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Md. Hasan Ali, Marzan Hasan Nayeem and Md. Sheikhsadi Dewan, Department of Industrial and Production Engineering, National Institute of Textile Engineering & Research (NITER), Dhaka, Bangladesh

Artificial Intelligence and Data Science

ID 305 Machine Learning-Driven Grid Integration Framework for Optimized Utilization of Campus Solar Energy and Load Shedding Mitigation
Md. Aminul Islam, Associate Professor, Department of Petroleum and Mining Engineering, Hydrogen Energy and CO2 Conversion Lab Jashore University of Science and Technology (JUST), Jessore, Khulna, Bangladesh
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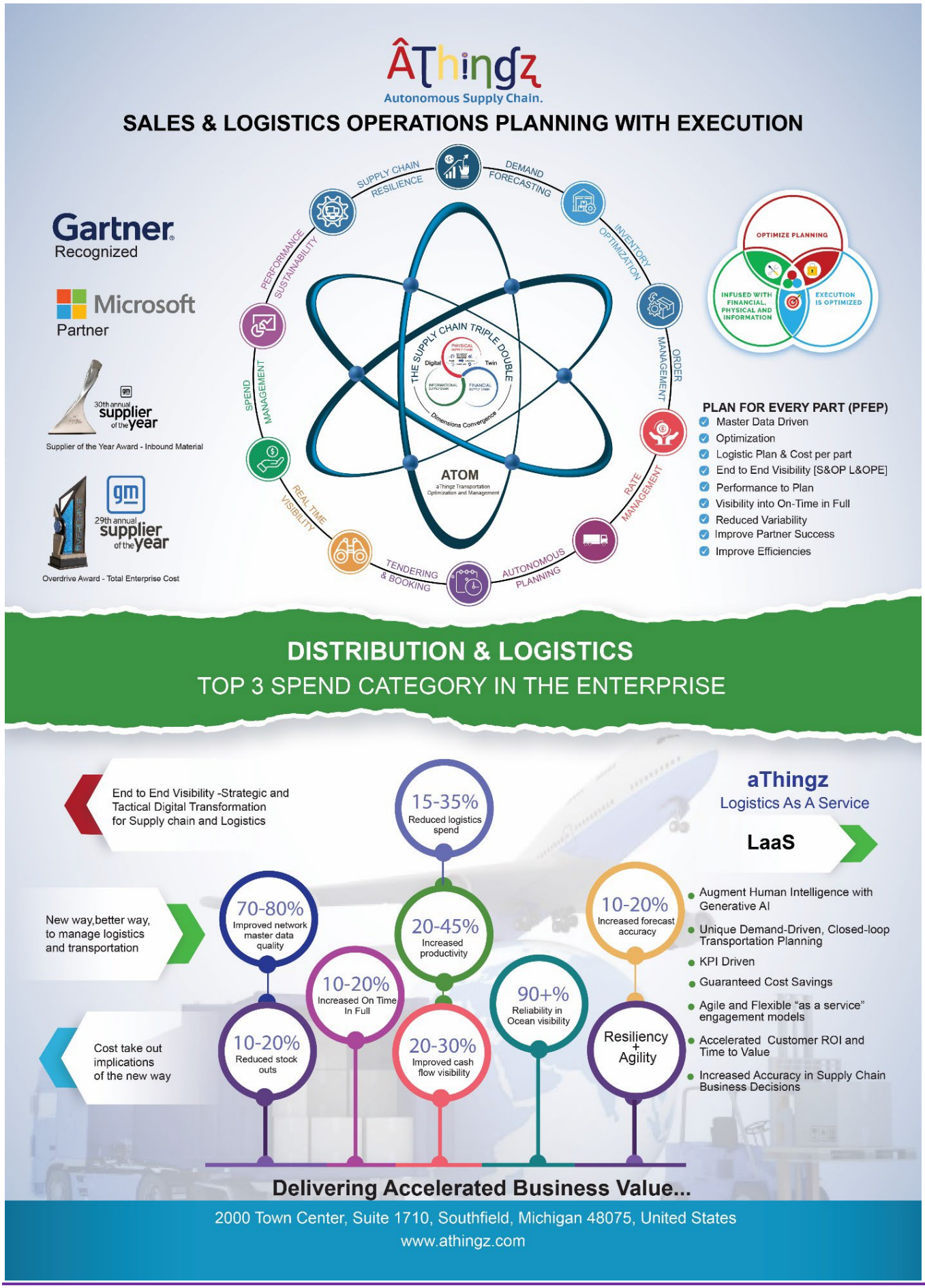
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Host: University of Tabuk

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7th Asia Pacific Conference on
Industrial Engineering and Operations Management
Bangkok, Thailand, March 25-27, 2026
Venue: Novotel Bangkok On Siam Square

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7th African International Conference on
Industrial Engineering and Operations Management
Cape Town, South Africa, May 13-15, 2026
Host and Venue: CPUT, Cape Town

Cape Peninsula University of Technology

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11th North American Conference on
Industrial Engineering and Operations Management
Milwaukee, Wisconsin, USA, June 9-11, 2026
Host: University of Wisconsin, Milwaukee

UNIVERSITY OF WISCONSIN MILWAUKEE

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Gazi University 1926

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9th European Conference on
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Barcelona, Spain, July 20-22, 2026
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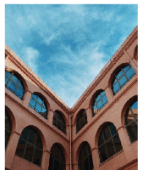

Host University
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9th IEOM Bangladesh Int. Conference on
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Dhaka, December 26-27, 2026
Host: BGMEA University of Fashion & Technology (BUFT)

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