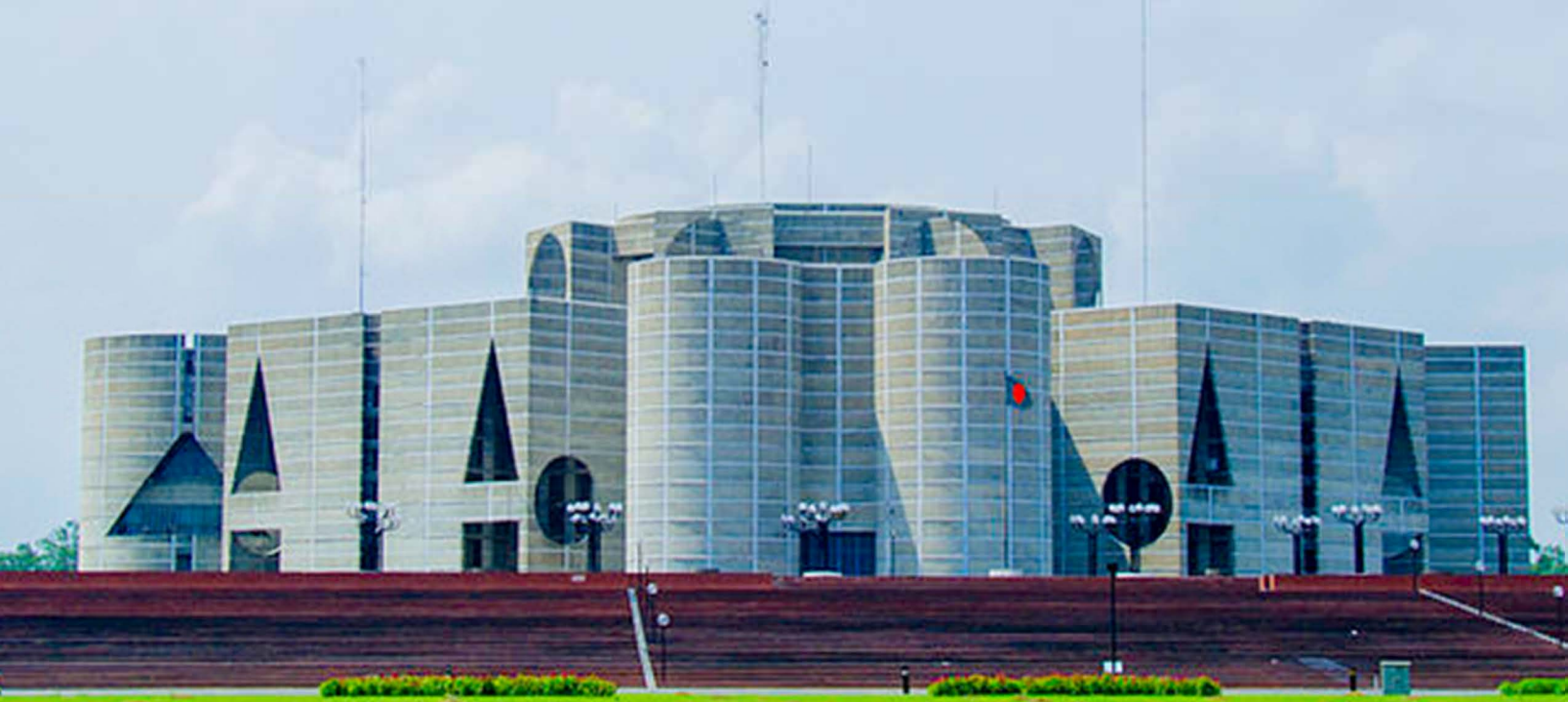
IEOM Society INTERNATIONAL

IEOM

The Third International Conference on Industrial & Mechanical Engineering and Operations Management (IMEOM 2020)



December 26-27, 2020, Dhaka, Bangladesh

Organized by IEOM Society International

IMEOM 2020 Dhaka

3rd International Conference on Industrial & Mechanical Engineering and Operations Management (IMEOM)

26-27 December, 2020 , Bangladesh

Organised by:

IEOM Society International

Opening Ceremony

26 December 2020, Saturday

Zoom Link Room A

Time	**Events**
10.00 am- 10.03 am	Participants login to the conference program via Zoom “”
10.03 am- 10.04 am	Call to Order
10.04 am -10.10 am	Recitation from the Holy Quran by Ahmad Fatehi Ali Mohammed Hezam, IUT
10.10 am-10.15 am	Welcome Address by Dr. A.R.M. Harunur Rashid, IUT – Conference Honorary Secretary and Honorary General Secretary, IEOM Society Bangladesh Chapter

10.15 am-10.20 am	Speech by Prof Dr. Md. Haider Ali Biswas, KU – Conference Hon. Treasurer, Honorary Treasurer, , IEOM Society Bangladesh Chapter
10.20 am-10.25 am	Speech by Prof. Dr. Mohammad Iqbal, SUST – Conference Co-chair and Co-chair, IEOM Society Bangladesh Chapter
10.25 am-10.30 am	Speech by Prof. Dr. M Sarwar Morshed, AUST – Conference Chair and Chair, IEOM Society Bangladesh Chapter
10.30 am-10.35 am	Inauguration of the conference and Chief Guest speech by **Professor Dr. Muhammad Fazli Ilahi** Vice-Chancellor Ahsanullah University of Science & Technology, Dhaka, Bangladesh
MC : Ishrat Jahan Eva, IUT and Afrin Mahi, IUT	

Closing Ceremony

Time	Events
8.00 pm- 8.03 pm	Participants login to the conference program via Zoom “”
8.03 pm- 8.04 pm	Call to Order
8.04 pm -8.10 pm	Recitation from the Holy Quran
8.10 pm-8.15 pm	Speech by Dr. A.R.M. Harunur Rashid, IUT – Conference Honorary Secretary and Honorary General Secretary, IEOM Society Bangladesh Chapter
8.15 pm-8.20 pm	Speech by Prof Dr. Md. Haider Ali Biswas, KU – Conference Hon. Treasurer and Honorary Treasurer, , IEOM Society Bangladesh Chapter
8.20 pm-8.25 pm	Speech by Prof. Dr. Mohammad Iqbal, SUST – Conference Co-chair and Co-chair, IEOM Society Bangladesh Chapter
8.25 pm-8.30 pm	Speech by Dr. Ahad Ali, LTU, USA and Executive Director, IEOM Society International
8.30 pm-8.35 pm	Speech by Prof Don Reimer, LTU, USA and Director, IEOM Society International

8.40pm-8.45 pm	Chief Guest speech by Professor Abu Masud, President, IEOM Society International
8.35 pm-8.40 pm	Vote of Thanks by Prof. Dr. M Sarwar Morshed, AUST – Conference Chair and Chair, IEOM Society Bangladesh Chapter
MC : AUST	

Teaching Factory Based Learning approach in Engineering and Technology Education

Dr. Abdul Talib Bon
Department of Production and Operations Management
Universiti Tun Hussein Onn Malaysia
86400 Parit Raja, Johor, Malaysia
talib@uthm.edu.my

Abstract

Malaysia national education leading up to the Industrial Revolution 4.0 requires a new approach in teaching and learning at the primary to tertiary level. The Teaching Factory-Based Learning approach is a new approach and no country implements it as a whole. This Teaching Factory-Based Learning method is a new teaching and learning approach where students will go through the teaching and learning process in the Teaching Factory built in institutions of higher learning based on existing curriculum and syllabus requirements that lead to industry needs. This study will look at how this Teaching Factory-Based Learning can be implemented by developing a new framework. This framework is formed through the adaptation of the syllabus and practical equipment available in the Teaching Factory. Similarly, this research method also takes into account the teaching methods carried out by instructors from the industry who carry out manufacturing activities in the Teaching Factory to be in line with the needs of the program itself. Develop a framework for Teaching Factory-Based Learning or known as Teaching Factory Based Learning (TFBL) in a two-year program at university and two years in industry (2U2I) at public university level and subsequently can be implemented in all universities, polytechnics, community colleges, skill training centres and vocational colleges.

Keywords

Teaching Factory-Based Learning, higher learning, new framework, 2U2I, industry

Biography

Dr. Abdul Talib Bon is Professor of Technology Management in the Department of Production and Operations Management at the Universiti Tun Hussein Onn Malaysia. He has a PhD in Computer Science, which he obtained from the Universite de La Rochelle, France. His doctoral thesis was on topic Process Quality Improvement on Beltline Moulding Manufacturing. He studied Business Administration in the Universiti Kebangsaan Malaysia for which he was awarded the MBA. He's bachelor degree and diploma in Mechanical Engineering which his obtained from the Universiti Teknologi Malaysia. He received his postgraduate certificate in Mechatronics and Robotics from Carlisle, United Kingdom. He had published more 300 International Proceedings and International Journals and 8 single author books. His research interests include manufacturing, forecasting, simulation, optimization, TQM and Green Supply Chain. He is a council member's of IEOM Society, President of IEOM Society Malaysia Chapter, member of IIE, IIF, TAM, MIM and MSORSM

EPQ model for returned/reworked inventories during imperfect production process in pandemic of COVID-19 for price-stock-dependent demand

Prof. (Dr). Nita H. Shah
Principal Investigator: DST-FIST
Department of Mathematics,
Gujarat University, Ahmedabad
Gujarat, India
nitahshah@gmail.com

Abstract

In the current pandemic of COVID-19, the manufacturing units had faced severe emergency of continuing production due to lockdown which hindered availability of skilled workers. During production process, manufacturing unit encountered with some defective items in spite of all preventive measures. The defective items are either rejected immediately at the time of production or reworked and sold as good ones or customers are given enough refund to maintain the goodwill of the company. Here, no. of defective items is assumed to be some fraction of production. Moreover, higher price of a product trims down the demand and vice versa. Also in the market, it is seen that large stacks of consumer goods display lead the customers to buy more. In this talk, we consider this realistic situation for price- stock dependent demand. As production advances, defective items as a part of outcome. So, production rate is one of the key features for the present model while calculating the profit. Cycle time and retail price are the very obvious factors affecting the profit. Hence, maximum total profit is achieved with respect to production rate, cycle time and retail price. When there are no defective items in production process, the optimal results are obtained as well.

Keywords

Price-sensitive stock-dependent demand; EPQ model Inventory model; Defective items; Rework; Exponential distribution; Optimization

Biography

Prof. Nita received her PhD in Statistics from Gujarat University in 1994. Prof. Nita is the HOD of the Department of Mathematics at Gujarat University, India. She is a post-doctoral visiting research fellow of the University of New Brunswick, Canada. Prof. Nita's research interests include inventory modelling in the supply chain, robotic modelling, mathematical modelling of infectious diseases, image processing, dynamical systems and its applications, etc. Prof. Nita has published 13 monograph, 5 textbooks, and 475+ peer-reviewed research papers. Four edited books are prepared for IGI Global and Springer, with Dr. Mandeep Mittal as the co-editor. Her papers are published in high-impact journals of Elsevier, Inderscience, and Taylor and Francis. She has authored 14 books. According to the Google scholar, the total number of citations is over 3106 and the maximum number of citations for a single paper is over 159. The H-index is 24 up to October 2020, and i-10 index is 77. She has guided 28 PhD students and 15 MPhil students till now. Eight students are pursuing

research for their PhD degree. She has travelled to the United States, Singapore, Canada, South Africa, Malaysia, and Indonesia giving talks. She is Vice-President of Operational Research Society of India. She is a council member of Indian Mathematical Society.

Laboratory Design for Fabrication of Green Biocomposites using Circular Economy Perspective: Study of Bioremediation of Dyes Using Nutraceutical Industrial Spent

Dr. Akheel Ahmed Syed
Department of Studies in Chemistry
University of Mysore, Manasa Gangothri, Mysore - 570006, India
E-mail: akheelahmed54@gmail.com

Abstract

A paradigm shift to attain sustainability through the concept of circular economy (CE) is increasingly recognized. The Nutraceutical Industry as a predominant sector of the world's economy is projected to reach USD 722.49 billion by 2027. The industry is generating myriad tons of spent commonly known as Nutraceutical Industrial Spent (NIS) which has no feed, fuel or fertilizer value. The industry cannot be expected to sustain for an everlasting period. Thus, there is an urgent need for a comprehensive approach to find tangible solutions for transformation of the myriad tons of spent/waste generated by Nutraceutical Industries into novel green biocomposites. Textile industry consumes over trillion liters of water, bequeathing an unprecedented water footprint. Further, the ever-increasing rate of plastics consumption, exhausting our limited fossil fuel resources, coupled with the short life-cycle of polymeric materials throughout the world has led to two major challenges and serious threat to the ecosystem, namely, environmental toxicants and resource depletion. Novel laboratory scale experiments are designed to allude the concept of CE through remediation of dyes using abundantly available NIS and their application to textile industrial effluent. The dye adsorbed-NIS "sludge" was used as reinforcing material along with plastic waste for the fabrication of composites.

Keywords

Circular Economy, Nutaceutical industrial spent, Bioremediation, Biocomposites

Biography

Akheel Ahmed Syed is the founder Vice Chancellor of Yenepoya University, Mangalore, India. He has 46 years of teaching and research experience at university level. He served at University of Mysore, India as Lecturer-1974, Reader-1986 and Professor of Chemistry -1994. He held many positions as Dean, Director, Chairman and Member of Syndicate and Academic Council. His significant international assignments include Icon Professor and Collaborator, University of Malaya, Malaysia; International Referee, King Faisal International Prize for Science in Chemistry, KSA, 2011, post-doctoral fellow at University of Paris and Assistant Professor and Associate Professor at University of Grenoble, France. He was designated as Foreign Collaborator by the Atomic Energy Commission of France for the year 1984-85. His research interests include Analytical Chemistry, Circular Economy, Environmental Science, Nutraceutical Industrial Spent, Polymer Chemistry and Sustainability. He has over 100 research publications with 2537 citations, h-index 21 and i_{10} 46 He has delivered over 150 keynote, plenary and invited lectures. He is recipient of many awards and honors which include, Young Muslim Scientist Award for Chemical Sciences-1989, Prof H. Sanke Gowda Research Award for Analytical Chemistry in 1992-93. Sir Isaac

Newton Scientific Award of Excellence in Chemistry, North Carolina, USA-2012. Distinguish Professor-Aligarh Muslim University, India-2019.

Human Factors at work in office and at home: The New Normal

Dr. Rauf Iqbal
National Institute of Industrial Engineering (NITIE)
Mumbai, India
raufiqbal@nitie.ac.in

Abstract

The outbreak of the Covid-19 pandemic is an unprecedented shock to the life of people as well as economy. The pandemic has a deep impact in the work life as well as social life of people across the globe. Study conducted by BRICSplus network on Human Factors and Ergonomics (HFE)shows that main concern among population is that,people are not able to meet relatives and friends, and since the office workplaces are closed, people are not able to move out. There is a shift of more than one hour for waking up in the morning and going to bed at night. There is symptoms of indigestion, sleeplessness and irritability among people. The symptoms have been reported to have increased during lockdown because of uncertainty. Also, social effects like withdrawing & isolating from people and loss of job have increased the frequency and level of depression. Psychological or emotional outcome like anxiety and fear, worry about safety of self and others, feeling isolated, lost, lonely or abandoned are frequent among people.
There is serious impact of Covid–19 in various industrial sectors. Study conducted by International Labour Organization states that global employment and risk level of workers are high in retail (14.5%), manufacturing (13.9%), accommodation and food (4.3%), transport (6.1%) and Construction (7.7%) etc. The pandemic has also set new normal in the workplace layout and work method. There is huge change in mode of communication and adoption of new technology.

Keywords

Covid-19, lockdown, lifestyle, BRICSplus, New normal

Biography

Prof. Rauf Iqbal is M.Sc. (Ergonomics & Work Physiology), Gold medalist, PhD. He has published 45 papers in International and National Journals. He is co-author of two books. He has presented 70 papers in International and national conferences. Seven scholars have completed P.hD. under his guidance. He is member of various national and international committees like, - BRICS Plus Executive Council for Human Factors and Ergonomics; Council member of Asian Council on Ergonomics and Design; Ergonomics Technical committee for Bureau of Indian Standards; Executive committee member of Indian Society of Ergonomics; Member of Internal Quality Assurance Cell, Board of Studies of SNDT Women's University, Mumbai; Member of Internal Quality Assurance Cell, NIFT, Mumbai.

He has reviewed journal papers for Taylor & Francis Group, UK and Roessingh Research and Development, Netherlands. He is editorial board member of Malaysian Journal of Ergonomics. He has examined PhD thesis from various national and international universities. He has carried out various projects funded by Govt. of India and International Labour

Organization. He has been conducting training programmes for various industries. He has conducted a large number of industrial consultancies on ergonomics, work study, work systems design and Safety

5G private networks for factory of the future.

Mohammad N Patwary
Faculty of Science and Engineering
University of Wolverhampton
Wolverhampton, UK
WV1 1LY
patwary@wlv.ac.uk

Abstract

5G promises high capacity & ultra-reliable wireless connectivity for applications, which 3G/4G cannot provide. But the high-density infrastructure requirement and expensive national spectrum make it difficult for the national operator to commit widespread coverage. The characteristics of local authority-owned street furniture and public buildings match the density requirement of the network infrastructure. Subsequently, these have significant potential to facilitate faster deployment of 5G infrastructure in collaboration with the local authority. Availability of localized license of 5G compatible spectrum from frequency regulatory bodies along with the abovementioned high-density infrastructure requirement of 5G can be considered as an opportunity for private network operators to work closely with local authorities.

One of the prime objectives of 5G network is to exploit enhanced mobile broadband (eMBB), ultra-reliable low latency communication (uRLLC) and massive machine-type communication (mMTC) features to enhance productivity in the factory of the future. The talk primarily demonstrates the work within the Centre for Future Networks & Autonomous Systems @ University of Wolverhampton, specifically on how 5G private network operators can revolutionize factory operation. Besides this, cost optimization of the network, use cases as well as policy support required from the government for the factories of the future is to be explored.

Keywords (12 font)

Fifth Generation (5G) Wireless Networks, enhanced Mobile Broadband (eMBB), ultra-reliable Low Latency Communication (uRLLC), massive Machine-Type Communication (mMTC), Factory of the Future (FoF).

Biography

Mohammad Patwary is the Director of Centre for Future Networks & Autonomous Systems (CeFNAS) & Professor of Telecommunications at the Faculty of Science & Engineering in University of Wolverhampton since June 2020. He is also research lead for '5G Connected Forest Project' funded by DCMS that aims at accelerating 'visitor economy' in midlands. He was a full Professor of telecommunication networks and digital productivity and the Head of the Intelligent Systems and Networks (ISN) Research Group, at School of Computing and Digital Technology, Birmingham City University, UK,

between 2017 till 2020; he was also the Principal Data Architect for a large scale 5G testbed in the UK to accelerate digital productivity and to develop urban connected community, with West Midland 5G during 2018-2020. He was also Full Professor of wireless systems and digital productivity and the Chair of the Centre of Excellence on Digital Productivity With Connected Services, Staffordshire University, until 2017; and His current research interests include sensing and processing for intelligent systems, wireless communication systems design and optimization, signal processing and energy-efficient systems, future generation of cellular network architecture, and business modelling for data-economy. He is Charterd Engineer of Engineering Council, Senior Member of IEEE, Fellow of IET, and co-chair of Testbed working group of International Network Generation Roadmap at IEEE.

Applications of Lean Principles for Enhancing Manufacturing Efficiency in Food Manufacturing

Dr. Julfikar Haider

Department of Engineering, Manchester Metropolitan University, Manchester, UK

It is generally agreed by both the wider academy and industrial communities that lean manufacturing tools and techniques can generate significant commercial and strategic advantages for manufacturing industries through creating value and minimising waste. The applications of lean have gone beyond the traditional manufacturing sectors such as automotive and aerospace to different batch processing industries and service sectors. Food manufacturing is one of the industries where people have started to realise its benefits and gradually adopting lean. This paper starts with importance of improving efficiency in food manufacturing from the UK context. The paper focuses on implementation of lean tools in food manufacturing sector in UK with an emphasis on ready meal case. Like anywhere else in the world, the UK food manufacturers are facing challenges such as reducing food manufacturing cost while the raw materials cost are increasing day by day. Part of this problem can be solved by improving manufacturing efficiency. Real-life lean implementation case studies will be presented in this paper to demonstrate its effectiveness in improving production efficiency, product quality and reducing production cost by reducing waste in food manufacturing. In general, industrial researchers, academics and food manufacturers particularly the ready meal sector would be benefitted by the information presented in this paper.

Biography

Dr Julfikar Haider is currently working as a Senior Lecturer in Mechanical Engineering at the Department of Engineering, Manchester Metropolitan University, UK. Dr Haider's main research is Materials Processing, Lean Manufacturing, Mass Customisation, and Computer Aided Design Modelling; and it is in these areas that he is renowned for his work both Nationally and Internationally, which is justified by his research outputs on the following: (i) new/novel coating material and plasma nitriding for surface treatment, (ii) material removal mechanisms with multipoint cutting tools, (iii) performance evaluation of coated cutting tools, (iv) new composite materials for dental application, (v) natural fibre reinforced polymer composite and (vi) improved welding strength of titanium alloys. He has received funding by Innovate UK to conduct Eight Knowledge Transfer Partnership projects with industry worth more than a million pound. He has been supervising research associates and PhD Students in the above areas. He has published and presented over 80 technical papers in international journals, conferences and books in the above areas. He is acting as the Executive Editor for an International Journal published by Taylor and Francis (Advances in Materials and Processing Technologies).

Prospects of End-of-life Electrical and Electronic Equipment Remanufacturing

Prof Dr. Shamsuddin Ahmed
Professor
Department of Mechanical and Chemical Engineering (MCE)
Islamic University of Technology (IUT)
Boardbazar, Gazipur, Dhaka, Bangladesh
suahmed@iut-dhaka.edu

Abstract.

The world is witnessing an unprecedented situation and has become marooned by COVID19. The reason behind the origin of Coronavirus is yet to be known, despite enormous claim of scientific development. It is not unlikely that the world would face manufacturing resources scarcity and transportation bottlenecks and finally manufacturing commotions. On the other hand gigantic amount of end-of-life electrical and electronic items and equipment are thrown away every year that might cause a variety of environmental pollution including viruses. In this backdrop, remanufacturing has to be an important alternative option instead of throwing-away of used electrical and electronic equipment's (EEE) in order to save our mother-nature and recover useful resources. Moreover, the increase in awareness of environmentally conscious manufacturing substantiates the remanufactured products to be most widespread. The significant benefits of remanufacturing are: greater availability of products and low costs to customers, new employment and industrial skills' development training to workers, and conservation of material and energy resources to a society. Remanufacturing does not only focus on economic profits but also delivers contribution to minimize environmental impacts by utilizing waste-bound end-of-life (EOL) products. This study attempts to find out remanufacturing opportunities, and main challenges, along with the dominant influencing factors based on authentic literature review and expert opinions. The paper presented a scenario of e-waste status, potential remanufacturing areas, its current practices, possible policy measures, and the present barriers in remanufacturing. The findings and observations provide a foundation and clear idea about the prospective remanufacturing and probable research directions.

Keywords

Remanufacturing, E-waste status, End-Of-Life (EOL)

Biography

Prof Dr. Shamsuddin Ahmed is a professor of Department of Mechanical and Chemical Engineering (MCE) at the Islamic University of Technology (IUT).). He earned his PhD, University of Malaya (UM), Kuala Lumpur; MEng, Asian Institute of Technology (AIT), Bangkok; BScEng (Mech), Bangladesh University of Engineering & Technology (BUET), Dhaka; PgDPM, Institute of Personnel Management (IPM), Dhaka. CEng (UK), MIET (UK), Life Fellow (IEB). Former--Associate Professor,University of Malaya,Kuala Lumpur, MALAYSIA; and Assistant Professor,Chittagong University of Engineering & Technology(CUET),Bangladesh Tel: IUT ext Room no:FAB Field of Interest: Manufacturing Planning and Control, Quality and Reliability Engineering, Operations Research, Plant and Equipment Maintenance, Engineering Economy, Human Resources Management, Industrial Energy Savings.

Agriculture Fiber - Waste to Wealth in Composite Materials

Professor Dr. Qumrul Hasan

Mechanical and Production Engineering, AUST, Dhaka
Email: qumrul.mpe@aust.edu

Abstract

Keywords

Natural Fibers, Microstructure, Specific Properties, Potential Growth

Biography

Dr. Qumrul Ahsan is a Professor of Mechanical and Production Engineering (Discipline of Industrial and Production Engineering) at the Faculty of Engineering, Ahsanullah University of Science and Technology (AUST). He had served as The Head of The Department of Material and Metallurgical Engineering in BUET. He has been acting as principle researcher in several research projects related to sustainable development of composite materials, failure analysis and nondestructive evaluation of materials. He holds a PhD in Metallurgy and Materials from the University of Birmingham, UK, graduated in 1997.

Productivity and Occupational Health and Safety – Development of Networks to Integrate RMG Industries

Professor Dr Mohammad Sarwar Morshed
Mechanical and Production Engineering, AUST, Dhaka
msmorshed@aust.edu

Abstract

The overall aim and objective of readymade garments (RMG) is to improve the productivity and competitiveness of RMG industry while simultaneously improving OHS and workers' conditions. In order to reach this objective the research works towards gaining new knowledge about network of integration among the RMG industries in Bangladesh in respect to development of sustainable OHS and productivity advancements. Earlier research has identified the positive synergies between productivity and OHS conditions after analyzing baseline data collected RMG industries in Bangladesh. The Lean and OHS model for the sustainable productivity improvement have been developed for the intervention process has been implemented in RMG industries with positive outcomes as expected. The research capacity in Bangladesh is strengthening by initiating network integration among RMG industries and institutionalizing this novel research domain.

Keywords

RMG, Productivity, OHS, Network, Integration

Biography

Dr Sarwar Morshed is a Professor of Industrial and Production Engineering and Head of MPE at the Faculty of Engineering, Ahsanullah University of Science and Technology (AUST). He started his academic career in Chittagong University of Engineering and Technology (CUET) in early 90s after receiving his undergraduate degree in Mechanical Engineering. He received his Masters in Industrial Management from the Centre for Industrial Management, Katholieke University of Leuven, Belgium and received his PhD in Manufacturing and Mechanical Engineering from the Birmingham University, UK on Optimization and Scheduling. He worked in the Birmingham University as PhD researcher before his post-doctoral research in Coventry and Bath University, UK. He also served as a visiting academic at Bath University and affiliated as a Visiting Research Fellow at Aalborg University, Denmark. He has supervised many undergraduate, masters and several PhD students further to his contribution in leading academic and research positions and course curriculum developments in past years. He has published 38 articles in several journal and conferences. He has been working as a Senior Researcher and Deputy Project Leader of Aalborg-AUST Research Project (POHS-BD) and collaborative work among AUST, Aalborg University and BGMEA since 2015-2020. A sustainable maturity model has been developed by integrating lean and OHS for intervention process in RMG industries. He is the project leader for NIPOSH network training project which is collaboration among Danish Embassy Dhaka, BGMEA, AUST and Southern Denmark University for the RMG industries in Bangladesh. He has developed Muti-objective knowledge based scheduling techniques using genetic algorithm (GA) for cancer patients in dynamic situation along with his hybrid GA framework for industrial and service scheduling using machine learning. Prof Morshed has affiliations with HEA (UK), OR Society, IEOM Society and IEB.

Optimizing the Infection of Twindemic COVID-19 by Non-pharmaceutical Control Measures in Absence of Effective Vaccine

Dr. Md. Haider Ali Biswas
Mathematics Discipline
Science Engineering and Technology School
Khulna University
Khulna-9208, BANGLADESH
Email: mhabiswas@yahoo.com

Abstract

More than one year has already been passed since the first onset of COVID-19 in 2019 at Wuhan, China. The global community is still facing the devastating consequence of its severity of infection [1, 2]. Efficient healthcare for the growing population worldwide has become major concern because of the increasing threats of such emerging and re-emerging diseases and their rate of mortality in the age of climatic change due to global warming [12]. The whole world is presently experiencing the catastrophe of the second wave of *twindemic* COVID-19. The optimal management of therapeutic treatment and the huge systematic costs of healthcare have become challenging for the healthcare providers [14]. The optimal control is a technique used to efficiently find better solutions to problems of healthcare systems which seeks to maximize or minimize the performance measures of the healthcare by manipulating the state variables under certain restrictions known as constraints. The dynamic optimization is crucial to address the nonlinear phenomena of rapid change over the glove as well as in the human physiological systems which can be captured and modeled by the nonlinear ordinary differential equations in the form of mathematical modeling [1-14]. Since human body is a highly nonlinear, robust, and an adaptive physiological control system, there is a close relationship between control theory and biomedicine [9-12]. So nonlinearity plays an influential role in describing the behavior of complex dynamical systems and the mysterious mechanisms of cell-virus interaction inside the human body.

In recent years, mathematical models have become important tools in analyzing and describing the changing dynamics of healthcare systems arising in biomedical applications. The efficient management and control processes in biology and medicine can be, in general, described by mathematical models where the nonlinear ordinary differential equations are the key ingredients. Optimization technique fuels on such analysis in obtaining the better non-pharmaceutical control strategies in absence of effective vaccine. This technique provides new results by applying the old theories. In this talk, we address some of recent developments of modeling the nonlinear behavior of the complex dynamical systems arising in biomedicine. Numerical simulation is performed to illustrate the analytical results.

Keywords

Optimal control, Mathematical modeling, Healthcare systems, Numerical simulations

Biography

Dr. Md. Haider Ali Biswas is currently affiliated with Khulna University, Bangladesh as a Professor of Mathematics under Science Engineering and Technology School and he served as the **Head of Mathematics** Discipline from 2015 to 2018. Prof. Biswas obtained his B Sc (Honors) in Mathematics and M Sc in Applied Mathematics in the year 1993 and 1994 respectively from the University of Chittagong, Bangladesh, M Phil in Mathematics in the year 2008 from the University of Rajshahi, Bangladesh and PhD in Electrical and Computer Engineering from the University of Porto, Portugal in 2013. He has more than 20 years teaching and research experience in the graduate and post-graduate levels at different public universities in Bangladesh. He published **Three Books**, **Five Book Chapters** and more than 150 research papers in the peer reviewed journals and international conferences. Prof. Biswas has worked at several R & D projects in home and abroad as PI and/or Researcher, particularly he is conducting different research projects funded by the Ministry of Science and Technology, Bangladesh, University Grants Commission of Bangladesh and The World Academy of Science (TWAS), Trieste, Italy. His present research interests include Optimal Control with Constraints, Nonsmooth Analysis, ODEs and Dynamical Systems, Mathematical Modeling, Mathematical Ecology, Environmental modeling and Climate change, Mathematical Biology and Biomedicine, Epidemiology of Infectious Diseases. Since the last ten years, Prof. Biswas has been working on the applications of mathematical models for designing and implementing those to real life problems, specially for the sustainable/optimal management under the changing environment due to global warming. He is the life/general members of several professional societies and/or research organizations like Bangladesh Mathematical Society (BMS), Asiatic Society of Bangladesh (ASB), Institute of Mathematics and its Applications (IMA), UK, European Mathematical Society (EMS) and Society for Mathematical Biology (SMB). Dr. Biswas is the founder member of Mathematical Forum Khulna and served as the General Secretary of the Forum in 2013-2015. Dr. Biswas organized several national and international seminars/workshops/conferences in home and abroad and he has been working as Editor/Member of editorial boards of several international peer-reviewed journals. Professor Biswas contributed as Keynote/Invited/Plenary/Panel speaker at several international conferences/seminars/workshops in home and abroad. Professor Biswas has been nominated as the Member of the Council of Asian Science Editors (CASE) for 2017-2020 and the Associate Member of the Organization for Women in Science for the Developing World (OWSD) since 2017. Recently, Professor Biswas has been elected as a Member of Executive Committee of Bangladesh Mathematical Society (BMS) for the year 2020-2021, and also nominated as the Associate Editor of the international journal *GANIT*- Journal of Bangladesh Mathematical Society (BMS) for the year 2020-2021. Dr. Biswas has been nominated as a Member of Executive Committee of the IEOM Society, Bangladesh Chapter and also serving as the Treasurer of the IEOM Society, Bangladesh Chapter. He is also serving as the Faculty Advisor of the IEOM Society Khulna University Chapter. Professor Biswas is presently serving as the President of Bangladesh Society for Mathematical Biology (BSMB) for the year 2020-2022.

Digital Twin from the context of Industry 4.0.

Dr. AMM Sharif Ullah
Institute of Technology, Japan
Email: ullah@mail.kitami-it.ac.jp

Abstract

Keywords

Biography

Dr. AMM Sharif Ullah was born and raised in Bangladesh. He is full professor and the chairperson of Intelligent Machines and Biomechanics Program, Division of Mechanical and Electrical Engineering, Kitami Institute of Technology, Japan. He directs the Advanced Manufacturing Engineering Laboratory at the Kitami Institute of Technology. He received his first degree, Bachelor of Science in Engineering (Mechanical), from the Bangladesh University of Engineering and Technology in 1992. He received his Master's and Doctoral Degrees from the Kansai University in 1996 and 1999, respectively. Before joining his current employer in October 2009, he worked as a full-time faculty member at the Asian Institute of Technology (2000-2002, Assistant Professor), the United Arab Emirates University (2002-2006, Assistant Professor, 2006-2009, Associate Professor). He has mentored more than 120 undergraduate/graduate students coming from different countries. He researches knowledge-based systems for product realization emphasizing creativity, design, manufacturing, operations, materials, sustainability, and systems. He published +130 technical articles in reputed peer-reviewed journals, edited books, and international conference proceedings. He serves on the editorial boards of several peer-reviewed international journals. His current research focuses on Industry 4.0, 3D Printing, Engineering Design, Sustainable Product Development, Reverse Engineering, Precision Manufacturing, and Engineering Education.

Industrial Revolution 4.0: Bangladesh - Preparation, Policy and Prospect

Mohammad Iqbal

Department of Industrial and Production Engineering
Shahjalal University of Science and Technology, Sylhet, Bangladesh
Email: iqbalm_ipe@yahoo.com

Abstract

The term Industry 4.0, shorten to 4.0 or simply 4, originated in 2011 from a project in the high-tech strategy of the German government, which promotes the computerization of manufacturing. The term industry 4.0 was publicly introduced in the same year at the Hannover Fair, Germany. Although in its conceptual state, Industry 4.0 promises a revolutionary leap in manufacturing industries for the next 10-20 years. Industry 4.0 is defined as a computerized manufacturing industry with connected intelligent devices, machines and physical objects; the goal is to construct an intelligent factory which is characterized by adaptability, resource efficiency and ergonomics. It integrates customers and business. Its advantages are: (i) Communicate independently and without wire (ii) Optimized individual customer product manufacturing, (iii) Resource efficient production (iv) Create energy saving efficiencies and (v) Lower the amount of carbon emitted. The paper includes Industry 4.0, challenges for education and training, industrial revolution time line, components of Industry 4.0, education and Industry 4.0, adaption of the higher education to the requirements of this vision, in particular the engineering education, government policy towards Industry 4.0, prospect of industry 4.0, application of Industry 4.0 in Bangladesh and future planning.

Keywords

Industry 4.0, Components, Curriculum, Human, Education, Engineering.

Biography

Professor Dr. Mohammad Iqbal is currently serving as a Professor at Shahjalal University of Science and Technology (SUST), Sylhet-3114, Bangladesh under the Department of Industrial and Production. He is the founder lecturer of Department of Industrial and Production, SUST. He served as the Head of the aforesaid dept. for thirteen years. Dr. Iqbal was the Dean of School of Applied Sciences and Technology for two years. He was the Head of Petroleum and Mining Engineering Department, SUST for one year. He served as visiting research scholar at Texas A&M University, College Station, Texas, USA, 2018. His affiliations as researcher have contributed more than 26 publications in peer-reviewed

national and international journals. Dr. Iqbal has more than 80 national and international publications in conference proceedings.

Dr. Iqbal is actively involved in research and teaching of Mechanical, Industrial, Production Engineering and environment related topics. He has 30 years of industrial, research and teaching experiences along with the working scopes in a development organization. He was a member, Peer Review Committee on Engineering & Applied Science, Ministry of Science, Information and Communication, Republic of Bangladesh Government for the financial year June 2006-July 2007. His affiliations as researcher have contributed more than 27 publications in peer-reviewed national and international journals. He has more than 80 national and international publications in conference proceedings. He is one of the advisors to the Sylhet Chamber of Commerce and Industries, Sylhet, Bangladesh. He was the member of SUST Research Centre, Shahjalal University of Science and Technology, Sylhet-3114, Bangladesh. He was the Honorary Secretary of IEB Sylhet Centre, Sylhet, Bangladesh (April, 2018 to September 10, 2020. Dr. Mohammad Iqbal was the Conference Chair of IEOM Society of Bangladesh Chapter (held in December, 2019). Dr. Mohammad Iqbal was the Chair of IEOM Society of Bangladesh Chapter from April 2018 to February 2020. At present, Dr. Mohammad Iqbal is the Co-Chair of IEOM Society of Bangladesh Chapter.

Integrated approach for a clean, affordable, and reliably energy future in Bangladesh

Dr. Arshad Mansoor
President, Electric Power Research Institute
Email: amansoor@epri.com

Abstract

Emerging trends in power generation and managing virtual power plant is the key sustainability in power sector in many countries around the world. This aim can be achieved through the integrated approach of a clean, affordable, and reliably energy for the future of Bangladesh.

Keywords

Integrated Approach, Sustainability, Virtual Power Plant, Reliable Energy

Biography

Arshad Mansoor is President of the Electric Power Research Institute (EPRI), responsible for the institute's operation and portfolio of R&D programs. Mansoor has been with EPRI for 21 years and previously served as SVP of research and development, and VP of the Power Delivery and Utilization sector. Mansoor holds five U.S. patents in power electronics and distributed energy resources. He is a senior member of IEEE, served as VP of the U.S. National Committee of CIGRE, and is a member of the board for the Energy Production and Infrastructure Center (EPIC) at UNC Charlotte. He earned a B.S. in electrical engineering from the Bangladesh University of Engineering and Technology; and a M.S. (1992) and doctorate (1994) in electrical engineering from the University of Texas in Austin. He completed the MIT Reactor Technology Course and the Harvard Business School Advanced Management Program. As an energy thought leader, Arshad Mansoor has been widely quoted on related matters in both national and global press and has presented in various forums worldwide including board briefings. In addition, he has published numerous papers in journals and conference proceedings.

IMEOM 2020 Dhaka

3rd International Conference on Industrial & Mechanical Engineering and Operations Management (IMEOM)

26-27 December, 2020 , Bangladesh

Organised by:
IEOM Society of Bangladesh
Supported by: IEOM Society International

Program Schedule – IMEOM 2020 Dhaka version 261220

All Keynotes, Panels, Opening, Awards, Closing programs will be held at Room A Zoom link

Zoom Link of Rooms

Room A

Room B

Day One: 26 December, 2020 (Saturday)

ID / Session Chair	Session	Title	First name	Last Name	Affiliation	Start	End
	Opening Prog					1000	1100

	keynote 1	**Teaching Factory Based Learning approach in Engineering and Technology Education**	**Prof Abdul**	**Talib Bon**	**Universiti Tun Hussein Onn Malaysia**	900	930
		Session Chair - Prof. Dr. A.K.M Masud, BUET					
	keynote 2	**EPQ model for returned/reworked inventories during imperfect production process in pandemic of COVID-19 for price-stock-dependent demand**	**Prof Nita H.**	**Shah**	**Gujarat University, India**	930	1000
		Session Chair - Prof Dr. Md. Haider Ali Biswas, KU					
TS1	Room A	Session Chair – Dr. Mohamed Awwad, California Polytechnic State University, USA					
129		Corporate Rating Model using Threshold Optimization and XGBoost	AnDa	Zhang	Kanagawa University	800	900
144		Impact of COVID-19 Pandemic on Plastic Grocery Bag Supply Chain, Usage, and Long-Term Effects	Michael	Wu	California Polytechnic State University		
145		Review of the Effect of COVID-19 on the American Semiconductor Industry Supply Chain	Natali	Markowitz	California Polytechnic State University		
146		COVID-19 Testing Supply Chain and Logistics Systems	Erik	Ramazzini	California Polytechnic State University		
179		Synchronous Control of Maxon EPOS4 Positioning Controller Using NI LabVIEW and NI Industrial Communications for CANopen	Asif Al Zubayer	Swapnil	University of Wisconsin-Milwaukee		
TS 2	Room A	Session Chair- Prof Dr. Shamsuddin Ahmed, IUT					
151		Automated Bread Maker: Implementing Techniques of Product Design Process	Shahriar	Tanvir	Military Institute of Science and	1100	1200

					Technology		
156		Modeling the Potential Impact of Industrialization on Forest Resources Depletion: an optimal control approach	Anarul	Islam	Khulna University		
165		Mathematical Modeling on Interrelation between Ultraviolet Radiation and Skin Cancer	Tahera	Parvin	Khulna University		
166		Mathematical Analysis of Reservoir-Mediator-Human Transmission for Dynamical Model of COVID-19.	Joy	Bakshi	Khulna University		
167		Fabrication of Cost-Effective Prosthetic Arm Using Electroencephalography Signal	Shihab	Ahmed	Bangladesh University of Engineering and Technology (BUET)		
TS3	Room A	Session Chair- Prof Dr. Mohammad Iqbal, SUST					
114		Extracting Cellulose Whiskers From Fully Cotton-Based Textile And Apparel Wastage	Riasat	Zaman	Bangladesh University of Textiles	1200	1300
115		A Sustainability Approach in the Development of Coal Blend Model for Subcritical Pulverized Coal Fired Power Plants in the Philippines	Annabelle	Laureta	Mapua University		
117		Employee Perception on the Effects of Corporate Social Responsibility on the Sustainability Performance of Food and Beverage Companies in the Philippines	Joachim Victor	Nepomuceno	Mapua University		
138		Effects of Side Wall Inclination Angle on Transition Mixed Convection in a Lid-Driven Trapezoidal Cavity	Emdadul Haque	Chowdhury	Bangladesh University of Engineering and Technology (BUET)		
140		A Mathematical Model to Investigate the Frequent Impact of Global Warming on Coastal Lives	Sajib	Mandal	BSMRSTU, Gopalganj-8100, Banglade		

					sh		
159		A Competency-Based Management Approach to Employee Training & Development: A Strategic Business Unit Case for Mergers and Acquisition	Marvin	Norona	Mapua University		
TS4	Room A	Session Chair - Dr Yusuf Aytaç Onur, Turkey					
152		Analytical Solution of a Prestressing Strand Subjected to Axial Strain	Yusuf Aytaç	Onur	Zonguldak Bulent Ecevit University	14000	15000
160		Minimizing Stringing Issues In FDM Printing	Md. Sabit Shahriar	Haque	Ahsanullah University of Science & Technology		
161		Optimum Design of a Capsule Shaped Proving Ring having a Load Measuring Capacity of 250 Tonnes: An Analytical Approach	Hasib Ahmed	Prince	Bangladesh University of Engineering and Technology (BUET)		
163		Numerical Simulation of Laminar Mixed Convection in a Vented Prismatic Room	Rashadul Islam	RItu	BUET		
147		Diffusive effects on Particle Transport through Hexagonal Periodic Tube	Nabila	Tabassum	Khulna University		
	Keynote 3	**Laboratory Design for Fabrication of Green Biocomposites using Circular Economy Perspective:Study of Bioremediation of Dyes Using Nutraceutical Industrial Spent**	**Prof Syed Akheel**	**Ahmed**	**University of Mysore, India**	15000	15300
		Session Chair- Prof Dr. Shamsuddin Ahmed, IUT					
	Keynote 4	**Human Factors at work in office and at home: The New Normal**	**Dr Rauf**	**Iqbal**	**National Institute of Industrial Engineeri**	15300	16000

					ng NITIE, Mumbai, India		
		Session Chair- Prof Dr. Mohammad Iqbal, SUST					
	Keynote 5	**5G private networks for factory of the future**	**Prof. Dr Moha mmad**	**Patwa ry**	**University of Wolverh ampton, UK**	**1800**	**1830**
		Session Chair-Prof. Dr. M Sarwar Morshed, AUST					
	keynote 6	**Applications of Lean Principles for Enhancing Manufacturing Efficiency in Food Manufacturing**	**Dr Julfika r**	**Haide r**	**Manches ter Metropol itan Universit y, UK**	**1830**	**1900**
		Session Chair: Prof Dr M. Muhshin Aziz Khan, SUST					
TS 5	Room A	Session Chair-Prof. Dr. Munnujahan Ara, KU					
125		Potential effectiveness of quality tools and techniques to introduce Total Quality Management (TQM) in ready-made garment (RMG) manufacturing industries in Bangladesh.	Md Mazh arul	Habib	UWS, Paisley, UK	**1900**	**2000**
198		Service Development Strategy Using QFD For Customer Satisfaction In A Bank.	Md. Sagar islam khan	ovi	SUST		
199		Health, Safety and Welfare: Practices and Realities in RMG of Bangladesh	Mamu nur	Rashid	Bangladesh Institute of Manage ment		
200		Forecasting Rainfall of Monsoon Season with Artificial Neural Network	Noor-E-	Zanna t	Khulna Universit y		
202		A System to Optimize Fish Production: An aquaculture-based study	Md Nazm ul	Hudha	Khulna Universit y		

	Panel	Women in Industry and Academia				1900	2000
		Moderator: Prof Dr. Salma Akhter, SUST					
Prof Mukaddes	**Keynote 13**	**Integrated approach for a clean, affordable, and reliably energy future in Bangladesh.**	**Dr. Arshad**	**Mansoor**	**President and CEO Electric Power Research Institute (EPRI), USA**	2000	2030
		Session Chair: Prof Dr Abul Mukid Mohammad Mukaddes, SUST					
Prof Mazhar	Panel	Global Engineering Education				2030	2130
TS6	Room B	Session Chair- Prof Dr. Md. Haider Ali Biswas, Khulna University					
113		Performance Analysis & Increase of Algorithm BAM & BPN by Optimistic Learning Rate, Sigmoidal Gain, Momentum Factor for Bidirectional Associative Memory (BAM) and Feed Forward Multilayer Error Back-Propagation Network (BPN) for Character Recognition	Md. Mainur Rahman	Tarafder	IICT, BUET	1100	1200
148		Critical study of Spare Management Supply Chain of Bangladesh's IT Industry to identify challenges and explore opportunities for development	Chowdhury Mahib	Ekram	Cisco Systems		
170		Mathematical Approach to Assess the Severity of Road Accidents in Bangladesh Using a SEIR-type Model	Kefayat	Tasnim	Khulna University		
168		Prediction of the Best Tensile and Flexural Strength of Natural Fiber Reinforced Epoxy Resin Based Composite Using Taguchi Method	Md Washim	Akram	Bangladesh Army University of Science and Technology (BAUST)		
169		Mathematical Assessment for the Dynamical	Kazi	Islam	Khulna		

		Model of Sexual Violence of Women in Bangladesh	Nusrat		University		
TS 7	Room B	Session Chair - Prof. Dr. Munnujahan Ara, Khulna University					
171		Impacts of Conventional Collection and Preservation Practices of Raw Materials in Leather Processing Industry of Khulna Region in Bangladesh	Syed Ehtashamul	Hoque	Khulna University of Engineering and Technology	12000	13000
183		Optimal Control Strategies Applied to Slow Down the Multiple Antibiotic Resistance in Human Body	Khan Anik	Islam	Khulna University		
173		Finite Element Simulation of Turning Process and Subsequent Route for Optimization	Dibakar	Sarker	Ahsanullah University of Science and Technology		
174		A Linear Programming Problem Analysis for Improving the Process and Quality of Nurse Rostering in the COVID-19 Unit of a City Hospital	Afifa	Sumaya	Bangladesh university of Engineering & Technology		
175		FDM Process Optimization With Smart Manufacturing	Md. Sharjil	Ahamed	Ahsanullah University of Science and Technology		
TS 8	Room B	Session Chair- Prof Dr. Dewan Hasan Ahmed, AUST					
184		Modeling and Analysis of the Dynamic Progress of Chronic Lung Cancer Due to Smoking	JOBAYER	AHMED	Khulna University	14000	15000
185		Optimal Control Strategies for Reducing Dengue Virus Infection in Bangladesh	Kazi Tahmi	Belal	Mathematics		

			d		Discipline, Khulna University, Khulna		
186		Demand Forecasting for RMG industries in Bangladesh	F. M.	Shakirullah	Dhaka University of Engineering and Technology, Gazipur		
188		E-waste estimation: A case study of Shahjalal University of Science & Technology, Sylhet-3114, Bangladesh	Mohammad	Iqbal	shahjalal university of Science and Technology		
196		Investigating the Feasibility of Stand-Alone Solar-Natural Gas Hybrid Power Generation System for Remote Island	Tanveer Mahmud	Silva	Undergraduate Student, Dept of IPE, BAUST		
TS9	Room B	Session Chair-Prof. Dr. Faruque A. Haolader, IUT					
228		Optimization of Vendor Rate Analysis Method by Visual Basic Applications (VBA): A Case Study of Footwear Industry	Muhammad Ali	Khan	Mehran UET, Jamshoro, Sindh, Pakistan.	1900	2000
259		STATISTICAL ANALYSIS OF THE IMPACT OF PENALTIES IN DRIVING: A CASE STUDY	Muhammad Ali	Khan	Mehran UET, Jamshoro, Sindh, Pakistan.		
123		Review on: Mammalian Artificial Chromosomes for Genetic Modification of Stem Cells	Farhana	Hoque	University of Science and Technology		

					Chittagong (USTC)		
210		A Concise Literature Review on Comparison between Lean Manufacturing and Six Sigma with Their Separate and Combined Applications to A Few Specific Industrial Sectors	Nafiz	Afsan	Islamic University of Technology (IUT)		
242		Literature Review on LCA of LPG as a Transportation and Cooking Fuel	Fahim	Shahrier	Islamic University Of Technology		
178		Automatic Identification of Shielded Metal Arc Welding (SMAW) Defects using Radiographic Image Processing and Deep Convolutional Neural Network (DCNN)	Naquib Mahmud	Chowdhury	Bangladesh University of Engineering and Technology		

+++>>>>>>>>>>>>+++

Day Two: 27 December, 2020 (Sunday)

ID	Session	Title	First name	Last Name	Affiliation	Start	End
TS 10	Room A	Session Chair- Dr. Mohamed Awwad, CalPoly Uni,USA andDr. A.R.M. Harunur Rashid, IUT					

153		Increased Reshoring Efforts in Response to Global Emergencies	Jack	Lugo	California Polytechnic State University	9000	10000
154		The Impact of COVID-19 on Food Security and Delivery in the California Central Coast Region	Peter	Bishop	California Polytechnic State University		
155		Meat Shortage in the United States: A Review of the Effects of COVID-19 on the Meat Industry	Adriel	Campuzano	California Polytechnic State University		
157		Impact of COVID-19 on Cleaning Supplies	Brandon	Yowakim	California Polytechnic State University		
164		Development of a Logistics Network for Medical Waste Management	Kazi Safowan	Shahed	AUST, Dhaka		
	keynote 7	**Prospects of End-of-life Electrical and Electronic Equipment Remanufacturing**	**Prof Shamsuddin**	**Ahmed**	**Islamic University of Technology(IUT)**	10000	10030
		Session Chair- Prof Dr. Md. Mosharraf Hossain, RUET					
	keynote 8	**Agriculture Fiber - Waste to Wealth in Composite Materials**	**Prof. Qumrul**	**Ahsan**	**University Teknikal Malaysia, Melaka (UTeM), Malaysia**	10300	11000
		Session Chair- Prof Dr M. Forhad Uddin, BUET					
	keynote 9	**Productivity and Occupational Health and Safety – Development of Networks to Integrate RMG Industries**	**Prof. Mohammad Sarwar**	**Morshed**	**Ahsanullah University of Science and Technology (AUST), Dhaka**	11000	11130
		Session Chair- Prof Dr. M Iqbal ,SUST					
Dr Humayun	**keynote 10**	**Optimizing the Infection of Twindemic COVID-19 by Non-pharmaceutical Control Measures in Absence of Effective Vaccine**	**Prof Md. Haider Ali**	**Biswas**	**Khulna University**	11300	12000

kabir							
		Session Chair- Dr. M. Humayun Kabir, JU					
TS 11	Room A	Session Chair-Dr. A.R.M. Harunur Rashid, IUT					
235		Study of Existing Fire Safety Assessment in a Chemical Factory, Bangladesh-A Case study	Mohammad	Iqbal	SUST, Sylhet	12000	13000
180		Mathematical Analysis for the Dynamic Model of Rapidly Growing Crime Incidence in Bangladesh	Arindam Kumar	Paul	Khulna University		
181		Factors Affecting the Maintenance Management Operations of a Leading Property Management Corporation: A Green IT Readiness Assessment Using Structural Equation Modeling	Marvin	Noronha	MAPUA UNIVERSITY		
182		Developing an Omni-Channel Strategy for Social Enterprises in the Philippines	Marvin	Noronha	MAPUA UNIVERSITY		
250		Ergonomic Intervention for Improving Worker Efficiency in Garment Industry: A Literature Review	Sadia Sharmin	Tushi	Islamic University of Technology(IUT)		
234		Design and Control of an Electrically Powered Knee Prosthesis by Taking Feedback from a Fully Functional Leg	Shahrin	Iqbal	Shahjalal University of Science and Technology, Sylhet		
TS 12	Room B	Session Chair- Dr. Md.Rezwanul Karim, IUT					
241		Optimization Processes & Analysis of Impact on Productivity: A Literature Review	Md. Shihabul	Islam	Islamic University of Technology (IUT)	12000	13000
260		Exploring the Potential of Six Sigma in Minimizing the Production Defects	Muhammad Ali	Khan	Mehran UET, Jamshoro, Sindh, Pakistan.		

261		Review of Lean Tool of Total Productive Maintenance (TPM) in Manufacturing Sector	Muhammad Ali	Khan	Mehran UET, Jamshoro, Sindh, Pakistan.		
239		A Review and Improvement of Hungarian Method Using MATLAB and TORA	Musarrat Khan	Rafa	Islamic University of Technology		
251		Remapped Value Stream in Supply Chain: Apparel Industry of Bangladesh As a Case Study	Mohmmad Shadman	Sakib	Islamic University of Technology		
TS 13	Room A	Session Chair- Prof Dr. Mamun Habib, IUB					
208		Lean Logistics Strategy for the Ready Made Garments (RMG) Industry of Bangladesh: Review and a Proposed Enhanced Strategy	Sk Tahmid	Shahriar	Islamic University of Technology	1400	1500
203		A Review Study on Various Types of Flute Shapes Used in Corrugated Paperboards Used for Packaging.	Tamzeed	Ahmed	IUT		
215		Different Perspectives Of The Upcoming Industrial Era and Current Trends in Cyber-Physical System: A Review	Abrar Sobhan	Chowdhury	Islamic University of Technology		
221		An Overview on Industry 4.0 in the Manufacturing Industry and the Associated Limitations	Ishtiaq	Ahmed	Islamic University of Technology		

265		Biogas generation potential from slaughterhouses in Dhaka city: A potential sustainable energy source	Syed Shaheer Uddin	Ahmed	Ahsanullah University of Science and Technology (AUST)		
TS 14	Room B	Session Chair- Prof Dr. A. B. M. Abdul Malek, SUST					
223		Sustainable Implementation of Green Supply Chain Management in the RMG Sector of Bangladesh : A Literature Review	Md Asif	Ahmed	Islamic University of Technology (IUT)	1400	1500
217		Manufacturing Processes of Solution-processed Organic Solar cells and Recent Advances	Aseer Nehalul	Islam	Islamic University of Technology		
220		Industry 4.0 In Bangladesh	Tausiful	Islam	Islamic University of Technology (IUT)		
262		Optimization of Production and Distribution Level for an Apparel Factory Supply Chain Using Mixed Integer Linear Programming (MILP)	Mohmmad Shadman	Sakib	Islamic University of Technology		
267		A study on Demand Forecasting of a Cement Manufacturing Industry Using Different Forecasting Techniques	Mohammed Towhidur	Rahman	Ahsanullah University of Science and Technology		

TS 15	Room A	Session Chair- Dr. A.S.M. Mojahidul Hoque, JUST					
245		Job Scheduling and Worker Assignment Problem to Maximize Profit By Hungarian Method Using TORA	Faria	Noor	IUT	**1500**	**1600**
222		Transportation Cost Minimization using Transportation Method by optimizing Job Assignment	Fahim	Shahrier	Islamic University Of Technology		
253		Optimal Site Selection for Solar Farm Using GIS and AHP: A Literature Review	Nabila Tabassum	Suprova	Islamic University of technology		
255		A Review on Thermodynamic Analysis of Dual-Loop ORC as a Waste Heat Recovery System (WHRS) of a Diesel Engine	Mohmmad Shadman	Sakib	Islamic University of Technology		
266		Study of The Significance of Cutting Parameters in Drilling Operation of Mild Steel using Carbide Tool	Aquib	Rahman	Ahsanullah University of Science and Technology		
TS 16	Room B	Session Chair- Prof Dr Iqbal Mahmud ,MBSTU					
256		A Review of Trans-critical CO2 refrigeration cycle	A.N.M Nihaj Uddin	Shan	Islamic University of Technology	**1500**	**1600**

225		Tackling post pandemic period economics by upgrading Supply Chain structure & Using Industry 4.0 in Bangladesh	Rakin Robbani	Raad	Islamic University Of Technology		
216		Energy Efficiency Improvement of Machine Tools	Fardin	Mahatab	Islamic University of Technology (IUT)		
	Keynote 11	**Digital Twin from the context of Industry 4.0.**	**AMM Sharif**	**Ullah**	**Kitami Institute of Technology, Japan**	**18000**	**18300**
		Session Chair- Prof. Dr. Md. Nurul Absar Chowdhury, IUT					
	Keynote 12	**Industrial Revolution 4.0: Bangladesh - Preparation, Policy and Prospect**	**Prof Mohammad**	**Iqbal**	**Shahjalal University of Science and Technology, Sylhet**		
		Session Chair- Prof. Dr. Faruque A. Haolader, IUT					
	Awards					19000	20000
	Closing Prog					20000	20300

~~~~~~~~~_______~~~~~~~~~
~~~~~~~~~

Student Talk for IMEOM 2020

Time: 26 Dec 2020, Saturday from 2:45 PM to 6 PM.