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A CENTURY OF SERVICE TO THE NATION

Volume 27

Number 1

International Conference of Textile Engineering Division Board

Innovative Approaches for the Development of Sustainable Textile Products and Processes

West Bengal State Centre of the Institution organized International Conference on the theme 'Innovative Approaches for the Development of Sustainable Textile Products and Processes' under the aegis of Textile Engineering Division Board (TXDB) during 9 – 10 February, 2020 at the Hotel Lalit Great Eastern, Kolkata. Prof Habil Mirela Blaga, Department of Knitting and Clothing, Gheorghe Asachi Technical University of Iasi, Romania graced the occasion as Chief Guest. Dr Blaga, in her Inaugural Address, focused on the cultural heritages and everlasting relationship between India and Romania, and also mentioned the usage of Indian textile products in Romania. She also delivered an Invited Lecture on 'Sustainable Solutions for Knitting Industry'. Mr Sisir Kumar Banerjee, Past President, IEI while presided over the Inaugural session, proudly announced that first time in the history of IEI, the International Conference under the aegis of Textile Engineering Division Board has been organized. Mr Banerjee, in his address, highlighted that innovations in textiles become a vital issue for achieving better quality of products at minimum cost. Mr Arunava Kundu, Chairman, TXDB, IEI in his address mentioned the background of the International Conference and various other activities of IEI under the aegis of Textile Engineering Division Board throughout the country. Prof Sadhan Chandra Ray, Organizing Secretary lucidly elaborated the theme and sub-themes of the Conference as well as briefed about the forthcoming technical sessions.



During the occasion, the Book of Abstract and Souvenir in CD of the Conference were released by the Chief Guest and other dignitaries present on the dias. Earlier, Mr Sandip Kumar Deb, Chairman, West Bengal State Centre and Council Member, IEI welcomed the august gathering. The Inaugural Programme of the Conference was well attended by the Council Members, IEI, Corporate Members of IEI, delegates, guests, scientists, researchers, academicians and students from various corners of India and abroad. The Inaugural Session ended with the concluding remarks delivered by Maj Gen (Dr) S Bhattacharya, VSM (Retd), Secretary & Director General of IEI. During the Conference, apart from Invited Lectures, Contributory Papers and Poster Session, one Special Session on 'Stress Relaxation & Motivation' were also organized.

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From the President's Desk.....

The outbreak of new corona virus COVID 19 has been declared a global pandemic by the World Health Organization, as it has affected almost all countries across the globe.



Health professionals are playing a central and critical role in combating this pandemic and they deserve accolades. They are providing essential services to cure and prevent the disease and deliver health care services to individuals, families, and communities at great risk to themselves. Rightly, many Governments have taken tough decisions to ensure safety of their citizens through unprecedented measures such as "lock-down" and imposing curbs on movements of its citizens. Collectively, working in synergy, scientists, policy-makers and government officials are trying their best to tackle this unprecedented situation.

At the same time, engineers and technologists are rising to the occasion to build-up infrastructure, maintain essential services, producing life-saving equipment and finding innovative ways to address emerging challenges. Across the world, makeshift emergency hospitals are being established within a remarkably short time-frame using prefabricated construction technology. These emergency medical facilities have several isolation wards, intensive care units and necessary amenities for the patients.

In the existing state of "lockdown" citizens have been advised to remain indoors and maintain 'social distance' to protect themselves and others. In this scenario, telecommunication engineers are considered to be "key workers" and similarly, all those involved in the operation of maintenance of essential services like power, goods transportation, mines, oil and gas and other such sectors are working round the clock even risking their health, to keep the Nation safe and running. Engineers have always been at the forefront in transforming the life of people by applying novel technologies and through large scale automation.

I take this opportunity to request all our State and Local Centres to come with innovative and pragmatic suggestions

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Innovative Approaches for the Development of Sustainable Textile Products and Processes

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Prof Subhas Ghosh, Apparel, Textiles & Merchandising School of Visual and Built Environments, College of Engineering & Technology, Eastern Michigan University, USA delivered the Invited Lecture on the theme, 'Super-hydrophobic and Stain Repellent Finish for Textile Fabrics'; Prof Tushar K Ghosh, Department of Textile Engineering, Chemistry & Science, North Carolina State University, USA delivered an Invited Lecture on the theme, 'Emerging Technologies and Research in Electronic Textiles'; Prof Atanu Ghosh, Shailesh J Mehta School of Management, IIT Bombay, Mumbai also delivered an Invited Lecture on the theme, 'Blue Ocean Strategy – a Choice for Indian Textile Industry'; Mr Debabrata Ghosh, BB Engineering GmbH, Remscheid, Germany presented another Invited Lecture on the theme, 'Latest Development in the Technology of Recycling'; Prof R Chattopadhyay, Department of Textile & Fibre Engineering, IIT Delhi, New Delhi presented the Invited Lecture on 'Wicking Performance of Octalobal Polyester Core Spun Yarn in Vertical and Horizontal Wicking'. Mr S K Som, Director, Quality Assurance & Technical Services, M/s Raymond Ltd., Thane was also present during the occasion and delivered an Invited Lecture on 'Modification of Silk-Wool Union Fabric with Sericin for Improved Wrinkle Recovery and Dimensional Stability'; Dr Jaydip Kumar Sensarma, Managing Director, Unicept Chema Llp, presented Invited Lecture on 'Application of Specialty Chemicals in Textile Processes'; Shamsuddin Md, Shaheen Chowdhury, Montreal Collection Ltd, Dhaka, Bangladesh delivered Invited Lecture on 'Scenario of Garment Industry in Bangladesh'. Large number of papers were presented during several technical sessions on the emerging areas of the textile industry, which include, Eco-friendly Green Acrylic Fibre Process Technology, Unconventional Natural Fibres for Acoustic Applications, Use of Power Ribboning Machine for Production of Quality Fibre from Jute and Mesta Plants, Sustainable Acrylic Fiber for Sweater Industry, Air Jet Texturing of Mulberry Silk Multifilament Yarn, Waste Jute Fiber, Atmospheric Plasma Treatment of Polyester/wool Blended Fabric, Assessment of the Properties of Banana Fiber and Banana-cotton Blended Khadi Yarn, Electron Beam induced Eco-friendly UV Light Protective Finishing of Cotton Fabric by silver Nanoparticles, Characterization of Polypyrrole coated Polyester Nonwovens for Heat Generation, Reuse of Textile Effluent treated Sludge for Hollow Concrete Block Manufacturing, Sustainable Solutions for Knitting Industry, Regulation of Skin-textile Microclimate through Moisture Locking Technology and so on. During the Valedictory session, Dr T M Gunaraja, Immediate Past President, IEI graced the occasion as Chief Guest and highlighted the genesis of conducting this International Conference by West Bengal State Centre of the Institution and extended his heartiest congratulations to the organizers for hosting such a Conference on the latest happenings in the fields of textiles in a befitting manner. Mr S K Som, Director, Quality Assurance & Technical Services, M/s Raymond Ltd, Thane emphasized on the need of organizing such successful international activity on a regular basis. Mr Sisir Kumar Banerjee, Past President, IEI graced the occasion and addressed the gathering. Mr Arunava Kundu,

Chairman, TXDB congratulated all the delegates for their active participation in order to make the conference a grand success. Prof Sadhan Chandra Ray, Organizing Secretary of the Conference briefed the audience regarding the recommendations emanated from the Conference. The best Poster Presenters were Awarded during the occasion. Earlier, Mr Sandip Kumar Deb, Chairman, WBSC, IEI, welcomed the dignitaries on the dais and the august audience. Prof. Sunil Kumar Sett, delivered the vote of thanks.

The important recommendations for commercial applications and further research for maximum achievable sustainability in the field of textiles emanated from two-day deliberations are as follows:

Shaped garment (3D) manufacturing by eco-friendly knitting technology has tremendous scope in near future as it generates less environmental hazards and no loss of raw material; Nano-technology has a lot of scopes in the production of value-added and specialty textile products, such as – (i) Electronic sensors and devices using conductive polymer nano-composites for using in Smart textiles, (ii) Bullet-proof jacket by using ZnO nano-rods, (iii) Ultra-violet ray resistant fabric by applying a fine coating of silver nano-particles etc; Production of textile reinforced flexible rubber check dam may of great utility in water storage as well as in flood control management; Production of green acrylic fibre dyed with cationic basic dye using Gel-Dyeing method results presence of an insignificant amount of colour in effluent but excellent colour fastness; Exploitation of potential of unconventional natural fibres has opened a new horizon in the development of eco-friendly textile products, namely – (i) Hollow natural fibres (Kapok & Milkweed) may be the base material for eco-friendly textiles for sound absorption, (ii) Specialty / technical textile products made of fibres like banana, pineapple, bamboo, sisal, nettle, yak blended with other popular natural fibre getting popularity in the market, (iii) the effective utilization of banana pseudo stemsap results flame retardant finishing of jute textiles and (iv) improved UV-protection, thermal insulation and fire retardance properties have been observed in union fabrics made of the unconventional fibres; Application of Plasma technology (ionised gases) is the new trend in textile processing. Dyeing of protein fibres (wool & silk) using this new technology results better dye up-take, huge saving in heat energy and time. Some pre-treatment before dyeing and post-dyeing finishing process can be carried out for achieving better fabric quality even without the application of water; The various schemes and policies taken by the state and central governments for the development of the handloom sector, the handloom woven cotton and silk made sarees and apparel, which are well accepted in India and Abroad as a sustainable product, will stand for the long term sustainability of those products; Application of Computer (CAD & CAM) can play a major role in the production of sustainable textiles by reducing consumption of water, energy, raw materials and auxiliaries in almost all the processes of fibre to final product manufacturing including precise process and quality control.

From the President's Desk.....

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in overcoming this challenge especially at the local level. I request the members of the IEI fraternity to rise to the occasion and maintain the health guidelines issued by the Government.

I take this opportunity to congratulate the power engineers of our country working in National Load Despatch Centre, State Load Despatch Centres, Power Grid, DISCOMs, Transmission Utilities, NTPC, NHPC, SJVNL, THDC, IPPs etc. who rose to the occasion to manage the National

Grid operations successfully, maintaining the power system parameters during the 'lights switch off' event on 5th April. In this challenging condition, stabilising the Indian National Grid, which is one of the largest operating Synchronous Grid in the world, was definitely a remarkable achievement for which Power engineers of the country deserve accolades.

I take this opportunity to extend my best wishes to you and your family members in these unprecedented times.

Stay Safe. Stay Healthy.

Applied Computational Intelligence and Informatics

Rajasthan State Centre of the Institution organized 33rd National Convention of Computer Engineers and National Conference on the theme 'Applied Computational Intelligence and Informatics' during February 15-16, 2020 under the aegis of Computer Engineering Division Board [CPDB] of the Institution. Mr Daria Singh Yadav, Director, Technical Education, (Polytechnics), Department of Technical Education, Government of Rajasthan graced the occasion as Chief Guest. Mr Yadav, during his address highlighted the importance of achieving Sustainable Development Goals. Prof Rahul Banerjee, Director, The LNM Institute of Information Technology, Jaipur graced the occasion as Guest of Honour. Prof Banerjee in his address briefed the benefits of the Applied Computational Intelligence and Informatics and further highlighted that it is the right time to focus on the need of energy saving and sustainability. He further recommended extensive learning beyond syllabi and course curriculum for the engineering students through such Conferences and technical discourse. Dr T M Gunaraja, Immediate Past President, IEI during his address highlighted the need of National Conference in current scenario and emphasized on practical approach for research and innovation. Mr N P Singh Brar, Chairman, CPDB, IEI presided over the inaugural function and addressed the audience. A Book of Papers was released during the occasion by the dignitaries present on the dais.



Earlier, Mr Sajjan Singh Yadav, Chairman, Rajasthan State Centre welcomed the audience. Mr Gautam Raj Bhansali, Honorary Secretary, Rajasthan State Centre proposed the vote of thanks. The M S Ramanujan Memorial Lecture was delivered by Prof Rahul Banerjee, Director, The LNM Institute of Information Technology, Jaipur on the topic "The World of Intelligent IoT Architecture and Systems". He spoke on the importance of computational intelligence of a machine for handling multiple static and dynamic actions at a time and automated decision making system. Prof Banerjee also discussed the Application of Pervasive computing Services and Context and Location specific Digital Graffiti, IoTivity Software Framework for IoT, Video See-Through Display etc which will be the key components of various SMART operations in recent future. During the occasion, three eminent engineering personalities were felicitated for their outstanding contribution in the field of Computer Engineering, namely, Mr Prakash K Kulkarni, Former Chief Operating Officer, Pradhan Energy Projects Pvt. Ltd., Nagpur, Maharashtra (in absentia); Mr A R Patel, Former Deputy General Manager, Gujarat State Fertilizers & Chemicals Limited, Vadodara, Gujarat; Maj Gen Mohan Jeet Singh Syali, VSM, Commandant, Electronics and Mechanical Engineering School, Vadodara, Gujarat and Dr Ranjani Parthasarathi, Professor, Dept. of Information Science and Technology, Anna University, CEG Campus, Chennai. The IEI Young Engineers Award in Computer Engineering Division was presented to Dr Gaurav Somani, Assistant Professor, Department of Computer Science and Engineering, School of Engineering and Technology, Central University of Rajasthan, Ajmer; Mr Partha Pratim Ray, Assistant Professor, Department of Computer Applications, Sikkim University,

Gangtok, Sikkim; Dr Amol Chandrakant Adamuthe, Department of Computer Engineering, K E Society's Rajarambapu Institute of Technology, Rajaramnagar, Islampur, Sangli, Maharashtra; Dr Aritra Hazra, Department of Computer Science and Engineering, Indian Institute of Technology Kharagpur and Mr Rajesh Duvvuru, Research Scholar, Department of Geo-Engineering, College of Engineering (A), Andhra University, Visakhapatnam, Andhra Pradesh (in absentia) for the years 2019-2020 and 2018-19. During the occasion, a Keynote Address was presented by Prof Rahul Banerjee, Director, The LNM Institute of Information Technology, Jaipur. During the technical sessions, Dr Vibhakar Pathak presented an Invited Lecture on Application of Artificial Intelligence on Real Life and Dr Surendra Yadav on Data Science. Mr M S Praveen, Country Manager, Transaction Network Services, Chennai delivered a Lecture on "Blockchain for Trusted and Authentic, and elaborated on techniques and application of Blockchain Technology especially in Government Asset Management and Monitoring, Healthcare monitoring, Property registration, Energy Grid Management, Finance Agriculture and many more. Mr Praveen emphasized on the robustness and the security of Blockchain Technology which are very important for maintaining the records in the above mentioned services.

Number of Papers were presented embracing the sub theme, which include;

Effect of Synaptic Depression in Modulating the Response Properties of Cortical Neurons, Comparative Analysis of Data Mining Tools, Techniques and Applications, Partial Least Square Regression Technique on HH Model with Excitatory Synapse for Sensitivity Analysis, Parameter Sensitivity Analysis of First Cardiac Ventricular Single Cell Model using Partial Least Square Regression, Deep Learning based Human Personality Identification for Offline Handwritten Documents, Efficient Methodology for Template Extraction and Detection from Heterogeneous Web Pages, Improvement in Software Cost Estimation for Algorithmic and Non-Algorithmic Models, CAD Design and modeling of BICMOS fabrication process used in

High Performance Applications, Reference Model for Internet of Things Middleware, Remote Sensing and Controlling of Greenhouse Agricultural Parameters Based on IoT, Hand Gesture Recognition Techniques, Energy Harvesting of Wireless Sensor Network for Internet of Things using Probabilistic Model and so on.

During the Valedictory Function, Mr Narendra Singh, President, IEI was the Chief Guest and Dr Mahesh Bunde, Principal & Director, Poornima College of Engineering, Jaipur and Dr Satyendra Singh Chouhan, Department of Computer Science and Engineering, Malaviya National Institute of Technology Jaipur were the Guest of Honours. Mr Nischal Sidana, Director, Expert Computers, Jaipur and Dr Sunil Sharma, HoD, Computer Engineering, Government Ramchandra Khaitan Polytechnic College, Jaipur were also present during the occasion. Earlier, Mr S S Yadav, Chairman, Rajasthan State Centre and Council Member, IEI, welcomed the audience.

Recommendations emanated from the National Convention are as follows.

National Convention creates a platform to bring different domains of AI, IoT, Web Mining, Data Mining, Machine Learning, Deep Learning, and Block Chain Development under an umbrella with new dimensions, prospects, and scopes for the societal impacts; National Convention focuses on the scope in interdisciplinary inventions and innovations in the modern time to simulate the current trends and technologies by using Machine Learning and Block Chain Technologies; National Convention is the platform of learning for budding engineers and students to improve their technical knowledge and skills for their own start-ups.

Flue Gas Desulphurization for Coal based Thermal Power Plants in India - Mandate and Implementation

West Bengal State Centre of the Institution organized All India Seminar on the theme 'Flue Gas Desulphurization for Coal based Thermal Power Plants in India - Mandate and Implementation' during December 03-04, 2019 under the aegis of Mechanical Engineering Division Board (MCDB).

In India, Coal based Thermal Power Plants (TPP) have played significant role as 'Engine of Growth' for decades. Till now, primary source to meet country's electrical energy demand are Coal based Thermal Power Plants and this will continue at least for next 10 years as none of the alternative energy sources do enjoy such level of production scale. This sector has witnessed progression of combustion technology, right from stoker-fired boiler to pulverized fuel fired boiler & fluidized bed combustion technology and finally supercritical/Ultra Supercritical units. However the technological challenges lies in mitigating the associated deadly concern of environmental pollution as release of pollutants and Green House Gas in the environment has been the most alarming fallout of coal based power generation. Therefore, the present energy scenario demands a focused attention on the approaches towards the environmental pollution aspects and reduction of GHG as well. Government of India also focused on reduction of emissions from coal based thermal power plants



in accordance with Intended Nationally Determined Contributions (INDC) submitted to the United Nations Framework Convention on Climate Change (UNFCCC), which has committed to curb emission intensity of its economy by 30-35% from 2005 by 2030. Accordingly, the Ministry of Environment, Forest and Climate Change (MoEFCC) has issued revised emission standard for Suspended Solid Particles (SPM), SO_x, NO_x and Mercury for all power plants. As regards SO_x emission, prior to MoEFCC mandate, there were no norms. The noted SO₂ emission level used to be around 1000 mg/Nm³, and, that, too, for domestic coal which contains only 0.2 to 0.4% Sulphur. According to the latest amendment, the norms for SO₂ release has to be restricted to 100 mg/Nm³ for new plants. Moreover, as per the revised implementation plan, this mandate has to be contained before 2022. With this mandate, it has become compulsory to install Flue Gas Desulphurization (FGD) units in the existing and upcoming power plants immediately through wet scrubbing, dry scrubbing or in-bed desulphurization for CFBC units or by other path breaking appropriate technology. Developed nations have taken major initiative to install FGD technologies. However, in India, the progress achieved till date is not very significant, as there are set of challenges coming in path of implementation. Many of the existing TPPs do not have the adequate space for installation of FGD. There are other issues like shut-down period, additional CAPEX and OPEX, loss of generation, synchronization of FGD with existing plant, additional resource requirement, solid waste (gypsum) disposal, utilization plan for gypsum etc. In this context, The Institution of Engineers (India) felt that it is the appropriate time for deliberation on this topic, and setting the path line for way forward, along with MoEFCC, utility generating companies and technology providers.

Mr Rabi Chowdhury, Managing Director (Generation), CESC Limited graced the inaugural function as Chief Guest. During his address, Mr Chowdhury lucidly explained various aspects of FGD, comparison between two alternative

routes – Dry & Wet FGD, significance of FGD installation with respect to the mandate of MoEFCC, the underneath challenges and possible avenues to mitigate. Mr Padam Prakash Gupta, Managing Director, Techno Electric & Engineering Co Ltd, the Guest of Honour during the occasion, discussed the present status of the execution of FGD system in existing thermal power plants. The Key note address was delivered by Prof (Dr) Mohsen Assadi, Department of Energy and Petroleum Engineering, Faculty of Science and Technology, University of Stavanger, Norway on the topic 'IGCC with Pre-Combustion Capture for Clean Coal Technology'. Prof Assadi mentioned that European Union had already went ahead of FGD, and are in the advanced stage of integrated gasification combined cycle power generation, which is an 'way forward' in the clean power generation. Mr Sujit Kumar Banerji, Council Member & Member, MCDB, IEI was present during the occasion and addressed the audience. Earlier Mr Sandip Kumar Deb, Chairman, West Bengal State Centre (WBSC) and Council Member, IEI, delivered the welcome address. Mr Kalipada Das, Honorary Secretary, WBSC, IEI proposed the vote of thanks. During the technical sessions, Invited Lectures were delivered by eminent luminaries, that include; Mr Dipak Kumar Sarkar, Former Executive Director, Development Consultants Private Limited on the topic 'Fundamentals of Flue Gas Desulphurization in Power Plants'; Mr Milind Vaidya, Business Advisor, Thyssenkrupp Industries India Private Limited on the topic 'Flue Gas Desulphurization In India – Role of Thyssenkrupp India'; Mr Susobhan Patra, Deputy General Manager, CESC Limited on the topic 'Flue Gas Desulphurization In India'; Mr Ashitava Sen, General Manager, Development Consultants Private Limited on the topic 'Issues with Flue Gas Desulphurization Units for Lignite Fired Power Plants in India'; Mr Asif Hussain, Senior Vice President, Business Development, Sumitomo SHI FW on the topic 'CFB Scrubbers make a case for India', Mr Shyama Prasad Patra, Deputy Chief Engineer (Mech), Damodar Valley Corporation on the topic 'Challenges in Installation of FGD By 2022', Dr Anindya Bhattacharya, Executive Director, The Celestial Earth on the topic 'Application of FGD and Environmental Cost-Benefits in Indian Power Sector', Mr Anmoy Kumar, Project Manager, TATA Consulting Engineers Limited on the topic 'Flue Gas Desulphurization (FGD) in India : A Bird's Eye View', Mr Saibal Kumar Mitra, Assistant General Manager, F Harley & Co Private Limited on the topic 'Control of Fugitive Dust in FGD Circuit in Thermal Power Plants', Mr H C Muniraj, General Manager, Vee Em Engineers on the topic 'Pulverizer System for Limestone'; Mr. Kaushik Sengupta, President (Mineral Processing and Mill Lining), Tega Industries Ltd on the topic 'General Overview of the FGD System with Basic Focus on Reagent Preparation Unit', Dr Prasun Chatterjee, Director, WIST Water Solutions Private Limited on the topic 'Flue Gas Desulphurization by Wet Limestone Scrubbing: An Insight into Background Chemistry and Mass-transfer Processes', and Mr Subhendu Podder, Partner, Energy & Environment, Indus Energy Consultants LLP on the topic 'Flue Gas Desulphurization – Challenges and Way Forward'. Papers were presented on Flue Gas Desulphurization – Technology, Implementation and Challenges in Coal Based Thermal Power Plants, Natural Gas Purification, Mandate and Implementation and so on. Mr Sudipta Mukherjee, Executive Director (Generation), CESC Limited, Mr Bidhyak Datta, Executive Director (Engineering), Damodar Valley Corporation, Mr Dipta Sundar Mallick, Executive Director, Development Consultants Private Limited graced the occasion as Chairmen, technical sessions.

During Valedictory Function, Mr Sisir Kumar Banerjee, Past President, IEI delivered the Valedictory Address. Mr Amaresh Chowdhury, President (Engineering & Projects), Techno Electric & Engineering Co. Ltd, Member, Mechanical Engineering Division, and Joint Organizing Secretary, WBSC, IEI briefed the audience the Proceedings of the technical sessions. Mr Santanu Sengupta, Former Managing Director, Westing House Saxby Farmer Ltd. and Britannia Engineering Ltd and Co-Chairman, MED, WBSC, IEI placed the Recommendations emanated from the All India Seminar. Mr Anirban Datta, Convener, Mechanical Engineering Division, WBSC, IEI, and Organizing Secretary proposed the vote of thanks.

IEI-Springer Journals' Editors Meet

To enhance the quality and to increase the visibility of Journals of The Institution of Engineers (India), IEI- Springer Journals' Editors' Meet was organized at the premises of Delhi State Centre of the Institution, New Delhi on 14 March, 2020. The Editor-in-Chief, Series A Journal, Prof K Ramamurthy from IIT Madras, Editor-in-Chief, Series B Journal, Prof P P Das from IIT Kharagpur, Editor-in-Chief, Series C Journal, Prof Gautam Biswas from IIT Kanpur, Editor-in-Chief, Series D Journal, Prof N R Bandyopadhyay from

IEST, Shibpur and, Editor-in-Chief, Series E Journal, Prof Arun K Tangirala from IIT Madras were present during the meeting through online. Mr Narendra Singh, President, IEI welcomed all present in the Meeting and Prof (Dr) Swapan Bhaumik, Chairman, Committee for Advancement of Technology & Engineering (CATE), IEI expressed his views on the improvement of the Journals. Mr V B Singh, Chairman, Civil Engineering Division Board, IEI, Dr M Velan, Chairman, Environmental Engineering Division Board, IEI, Mr N P Singh Brar, Chairman, Computer Engineering Division Board, IEI, Prof (Dr) T S Kamal, Chairman, Electronics & Telecommunication Division Board, IEI, Mr R N Rajpoot, Chairman-BOG, Safety & Quality Forum, IEI and Mr Dinesh Kumar, Chairman, Delhi State Centre, IEI were also present during the Meeting. Ms Sonal Choudhary, Associate Editor and Ms Shilpa Anand, Senior Editorial Assistant from M/s Springer were present during the Meeting. During the Meeting, Mr H R P Yadav, Director (HQ Cell), IEI and Dr Nilanjan Sengupta, Director (Technical), IEI discussed various issues for enhancement of quality of the Journals. The Meeting ended with the vote of thanks delivered by Maj Gen (Dr) S Bhattacharya, VSM (Retd), Secretary & Director General of the Institution.



All India Seminar of Mechanical Engineering Division

Mechanical and Tribological Behaviour of Advanced Composites

Karnataka State Centre of the Institution in association with Brindavan College of Engineering (BrCE), Bengaluru organized All India Seminar on the topic 'Mechanical and Tribological Behaviour of Advanced Composites' under the aegis of Mechanical Engineering Division Board of IEI during November 8-9, 2019 at Bengaluru. The objective of the Seminar is to impart knowledge to the researchers, students and engineering professionals regarding the emerging trends of advanced composites and Tribology and intended to provide a platform for interactions between renowned tribologists of the country, senior teaching professionals and engineers from industry and practicing tribology. Dr Sampath Kumaran, Joint Director (Retired), Central Power Research Institute, Bengaluru graced the occasion as Chief Guest. Dr Kumaran, in his speech mentioned different application domains of composite materials in industry. He further enumerated that a nano-composite is a matrix to which nano-sized particles have been incorporated to drastically improve the mechanical performance of the original material. 'Composite materials are macroscopic combination of two or more distinct materials having a recognizable interface between each other and composites are not only preferred for their structural properties, but also used for their tribological,

and Wear) behaviour of nano-composites using various combination of nano-particles inclusion and time. Earlier, Mr Jasmail Singh, Chairman, Karnataka State Centre and Council Member, IEI, in his welcome address spoke about the global impact of friction and wear on energy consumption, economic expenditure, and carbon dioxide emissions which are still considerable. 'Improvements to the tribological performance of engine components and additives can provide reduced fuel consumption, increased engine power outputs, reduced oil consumption, reduction in exhaust emissions, improved durability, and reduced vehicle maintenance', he added. Mr M Nagaraj, Honorary Secretary, Karnataka State Centre proposed the vote of thanks. Papers were presented on different topics, that include; Tribological characteristics & Polymer Metrics Composites; Effect of Heat Treatment on Sliding Wear Resistance of Hybrid Aluminum Matrix Composites; Tribological Behavior in Arc Welding applying different Flux Materials etc.

Recommendations emanated from the Seminar are as follows:

Composite materials are multifunctional in nature, which can be customised based on the nature of the applications. The challenge of composite materials lie on complementing the properties of one another i.e. materials which go in the making of composites strengthen each other by inhibiting their weaknesses; The use of lubrication in fabricating composite materials and the effect of lubrication on the wear rate is an important topic to study. Also it is rare to find the tribological properties of nano polymer composite materials having nano metal fibers with process optimization; The properties of nanocomposites have caused researchers and industries to consider using this material in several fields. Polymer nanocomposites consists of a polymer material having nano- dispersed in the polymer matrix which may be of different shapes; The main premise is to study heat-treated composites have superior characteristics which makes it an alternative material for reciprocating applications in aerospace and automotive industry; Researchers must need to discovery new generation of composites that should incorporate the synthetic or natural materials by implementing new efficient manufacturing processes. In the combination of matrix and reinforcement materials, the use of natural materials as constituent are compulsory in order to obtain a complete material degradable as environmentally friendly.



thermal and electrical properties to achieve desired properties for a given range of applications', Dr Kumaran added. Dr Kumaran further briefed on the mechanical behaviour of polymer nano-composites which focuses on the mechanical property evaluation, wear behavior of Polymer composite materials with respect to different impingement angles and variation of filler composition using different processing techniques and tribological (Friction

One Day Seminars/Workshops Conducted by Various Centres of IEI

STATE CENTRES

Gujarat

The Institution of Engineers (India), Gujarat State Centre under the aegis of Textile Engineering Division Board (IEI) in association with Textile Processing Technology Department, Ranchhodlal Chhotlal (R C) Technical Institute, Ahmedabad and Association of Chemical Technologists (India), (ACTI)



Ahmedabad organized One Day Seminar on 'Application of Enzymes in Wet Processing of Textiles' on 03 March, 2020. The main objective of the program was to impart technical and practical knowledge

regarding application of enzymes in wet processing of textiles. Mr Krupesh Thakkar, Chief Operating Officer, Ankur Textiles graced the function as Chief Guest and Dr J J Shroff, Former Vice-President, NLRC, Arvind Ltd as Guest of Honour. Other dignitaries present on the dais during the occasion include Dr B B Soneji, Principal, R C Technical Institute, Ahmedabad, Mr Jignesh Vyas, President, ACTI and Mr Rushikesh Joshi, Faculty, R C Technical Institute. During the technical sessions, papers were presented by eminent speakers on different sub theme, which include; various enzymes being used for different wet processing of textiles from Desizing, Scouring to Finishing; mechanism of enzymes and its industrial use covering various sectors, such as food processing, brewery, tyre and specifically textile in wet processing; different enzymes used in textile finishing; etc. Earlier, Mr Shyam Varghese, Honorary Secretary, Gujarat State Centre welcomed the audience.

West Bengal

West Bengal State Centre of the Institution, in association with The Institute of Marine Engineers (India) (IMEI), Kolkata Branch organized One Day Seminar on 'Environmental Pollution of Ships' on 14 March, 2020 under the aegis of Marine Engineering Division Board, IEI. Mr Amit Bhatnagar, Senior Principal Surveyor and Vice-President, Indian Register of Shipping graced the function as Chief Guest. During his address, Mr Bhatnagar lucidly explained oil pollution of ocean from ships, significance and implementation of the



International Convention for the Prevention of Pollution from Ships (MARPOL), which is the main International Convention covering prevention of pollution of the marine environment by ships from operational or accidental causes and functional aspects of Ballast Water Management on board ships. Mr Bhatnagar further dealt with the generation of green house gases by the ships and the Shipboard Energy Efficiency Management Plan to counter it. Mr Alok Kumar Sarkar, Senior Marine Engineer was the Guest of Honour during the occasion. In his address, Mr Sarkar pointed out that sea is polluted by both shore establishments and ships and there are certain specific sea pollutants, which include Ballast Water, Antifouling Paints etc. Mr Sarkar also mentioned the functional aspects of International Maritime Organization (IMO) to curb pollution from ships. During technical sessions, eminent

speakers enlightened the audience with their thought provoking lectures, that include; Mr J Behera, Deputy Commandant, Indian Coast Guard on the theme 'Pollution Response Management', Mr Krishnendu Das, Associate Professor & Head of the Department, School Board of Marine Engineering & Technology, Indian Maritime University (IMU), Kolkata Campus on the topic 'Studies of Impact on Environment due to Refrigerant Waste during Ship Recycling Process in India', Dr Kalyan Mitra, Faculty, IMU, Kolkata Campus on 'Ballast Water Management Regulations Entry into Force, Methods and Treatments' and Mr V Ramkumar, Faculty, Hoon Maritime Institute, Kolkata on 'Pollution of the Sea by Plastic'. Earlier, Mr Gautam Sen, Member, Marine Engineering Division Board, IEI welcomed the audience. During his address, Mr Sen explained six Annexes of MARPOL and different modes of pollution from ships namely pollution from oil, pollution noxious liquid substances, dangerous goods in packaged form, sewage, garbage and air pollution from exhaust of the ships etc. Mr Kashmir Lal Mallik, Immediate Past Chairman, WBSC, IEI and Mr Abhijit Banerjee, Vice Chairman, IMEI Kolkata Branch were present during the occasion and addressed the audience. Mr Kalipada Das, Honorary Secretary, WBSC, IEI proposed the vote of thanks.

LOCAL CENTRES

Kanchepuram

Kanchepuram Local Centre of the Institution, in association with Department of Civil Engineering, St. Joseph's Institute of Technology, Chennai organized



One Day Workshop on the theme 'Cost Effective and Eco - Friendly Construction Technology' on 12 February, 2020 under the aegis of Civil Engineering Division Board, IEI. The objective of the Workshop is to understand the importance of different

Cost Effective and Eco – Friendly Construction technologies in practice. Dr K Ananthanarayanan, Professor, Department, IIT Madras was the Chief Guest during the function. Prof Ananthanarayanan delivered Lecture on application of Lean Principle to minimize Construction and Demolition Waste which includes the concepts of Lean Construction, risk associated with available waste materials and products, comparative study of lean construction approach with project management approach and concludes with the application of 6σ principle and tools. Dr S Thenmozhi, Professor and Head, Department of Civil Engineering, St. Joseph's Institute of Technology, Chennai during her address, highlighted on cost effective and eco – friendly construction technology, Dr. V. Gowri, Associate Professor, Department of Civil Engineering, St. Joseph's Institute of Technology, Chennai on Low Cost Construction etc. Earlier, Prof (Dr) D Elango, Honorary Secretary, Kanchepuram Local Centre, IEI delivered the welcome address.

Salem

Salem Local Centre of the Institution, in association with Department of Petrochemical Engineering, Mahendra Institute of Engineering and Technology, Mahendrapuri,



Mallasamudram organized One Day Workshop on the theme 'Guide Lines for Safety Measurements in Petrochemical Industries' on 7 January,

2020 under the aegis of Chemical Engineering Division Board, IEI. Mr Bala Subramaniyam, Assistant General Manager, Southern Petrochemical Industries Corporation (SPIC) Tuticorin graced the function as Chief Guest. During his address, Mr mentioned that guidelines are normally a set of rules that govern the employee actions while performing usual duties and tasks and workers must adhere to the guidelines of safety procedures and the key requirements including mounting safety guides in proper places, procedures laid out in the equipment manuals etc. During technical sessions, resource persons explained different aspects of safety in chemical plants, development of workplace safety training program, hazards and risks in paint manufacturing, fire hazards , detection, safety and so on. Earlier, Mr D.Arulselvan, Chairman, Salem Local Centre, IEI delivered the welcome address. Mr S Loganathan, Honorary Secretary, Salem Local Centre, IEI proposed the vote of thanks.

Salem Local Centre of the Institution, in association with Department of Mechanical Engineering, Muthayammal Engineering College, Rasipuram, Namakkal organized One Day Workshop on the topic 'Surface Engineering and Micro Machining' on 06 January, 2020 under the aegis of Production



Engineering Division Board, IEI. Dr M Madheswaran, Principal, Muthayammal Engineering College, Namakkal in his address mentioned about the micro machining technology and its application, functional

aspects of micro robots and applications of surface engineering and micromachining. Dr R Thanigaivelan, Organising Secretary & Professor & Head, Department of Mechanical Engineering, Muthayammal Engineering College, Namakkal briefed the audience about the aims and objectives of the Workshop. During the technical sessions, pertinent issues related to the theme of the Workshop was discussed at a length, which include; Electro discharge micromachining for advanced materials, the principle, applications and advantages of Micro EDM process, friction corrosion and surface engineering, various surface coating methods and characteristics

of the surface modified materials; Friction stir processing (FSP) technology and development of C70600 graded copper-nickel (CuNi) Surface metal matrix composite (SMMC) reinforced with and without addition of ZrCp, its metallurgical characteristics using Optical microscope (OM) and Field Emission Scanning Electron Microscope (FESEM); Surface Engineering Methods and Nano coating; etc. Earlier, Mr D Arulselvan, Chairman, Salem Local Centre, IEI delivered the welcome address.

South Gujarat

The Institution of Engineers (India,) South Gujarat Local Centre (SGLC), Surat organized One Day Workshop on QGIS for Hydrological Applications in association with Dr. S & S. S. Ghandhy College of Engineering, Surat on 6 March, 2020 under the aegis of Civil Engineering Division Board, IEI. The objective of the Workshop was to provide in-depth knowledge regarding QGIS, an open source Geographic Information System software for students, Faculty members of Engineering Colleges and Technological Institutions and professionals; to introduce the fundamental principles of Hydrology and also to provide the basic knowledge and tools necessary to accurately analyze and design Civil Engineering hydraulic systems; to share knowledge and expertise on Flood Management; to learn the application of Remote Sensing and GIS in flood risk mapping; To learn and deliberate on soft computing applications in Hydrological Applications etc. Dr S M Yadav, Past Chairman, SGLC, IEI graced the function as Chief Guest and addressed the gathering. During technical sessions, eminent resource persons discussed on Introduction to QGIS software and its applications; 1-D Modeling of River Reach using HEC-RAS hydrodynamic software to assess the carrying capacity using past flood data and Steady Flow Analysis; Hydrology and flood forecasting of Narmada at Sardar Sarovar; 2D/ 3D Creation of DEM and Map Making in QGIS Software etc. Earlier, Mr Kirti Hiralal Shethna, Chairman, SGLC and Council Member, IEI welcomed the audience. Mr Dipak Gomanbhai Patel, Honorary Secretary, SGLC, IEI proposed the vote of thanks.



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IEI Celebrates

World Engineering Day for Sustainable Development 2020

World Engineering Day for Sustainable Development was celebrated by the Centres of the Institution all over the country on March 04, 2020. Brief accounts of the celebration as received from various Centres are reported hereunder

STATE CENTRES

Gujarat

Gujarat State Centre of the Institution in association with World Federation of Engineering Organization, Water Management Forum and SAL Education, Ahmedabad celebrated the World Engineering Day for Sustainable Development on 4 March, 2020. Padmashri S S Rathore, Past President, IEI, Managing Director, Gujarat Metro Rail Corporation Ltd and Managing Director, Gandhinagar Railway &



Urban Development Corporation Ltd graced the function as Chief Guest and deliberated on the role of engineering and technology in sustainable development in today's scenario. Mr Navinchandra B Vasoya, Past President & Council Member, IEI, the Guest of Honor during the occasion, deliberated on the role of IEI in imparting skills and engineering education in India. Dr Rupesh Vasani, Director, SAL Education, Ahmedabad, Prof Dr - Ing Anupam Kumar Singh, Director, Indus University, Ahmedabad were present during the occasion and addressed the audience. Earlier, Mr H U Kalyani, Chairman, Gujarat State Centre and Council Member, IEI delivered the welcome address. Mr Vijay Solanki, Water Management Forum spoke about the objective and background of World Engineering Day. Mr H R Shah, In-charge Principal, SAL College of Engineering proposed the vote of thanks. An Exhibition titled 'Save Water' was organized during the occasion in association with Water Management Forum, IEI.

Himachal Pradesh

Himachal Pradesh State Centre of the Institution celebrated World Engineering Day for Sustainable Development on 4 March, 2020 on the theme 'Sustainability in Infrastructure Development in India'. Mr S K Gupta, Member (Retd) Himachal Pradesh State Electricity Board Limited was the Chief Guest in the occasion and addressed the audience. Mr Suneel Grover, Chairman, Skill Development Forum, IEI was present during the function and addressed the gathering. Earlier, Mr Pankaj Dadwal, Chairman, H P State Centre and Council Member, IEI welcomed the Chief Guest and others present during the occasion. The program was well attended with the engineers from HPPWD, HPSEB, HPPCL, SJVNL, BSNL and Engineering Faculties from different Institutions. Mr Kusum Sharma, Honorary Secretary, HP State Centre proposed the vote of thanks.



Jharkhand

The Institution of Engineers (India), Jharkhand State Centre celebrated World Engineering Day for Sustainable Development 2020 on 4 March, 2020 at Ranchi with the aim to discuss and disseminate the recent achievements in engineering and technology that leads to sustainable development. The Chief Guest, Mr A K Saxena, Chairman, Sustainable Development Forum, IEI and Former Chairman, SEAC Jharkhand in his address very strongly and categorically reiterated the need for sustainable development and mentioned that engineers must accept increased responsibilities to develop sustainable solutions to meet the community needs. The education of engineers must



include understanding of sustainability and engineering course curriculum must reflect a strong commitment to the principles of sustainable development. Mr C D Goswami, Executive Director

(Technical Services) MECON Limited, Ranchi, the Keynote Speaker during the function, in his address explained and recommended implementation of Circular Economy in production cycle as the path way of development rather than linear business model. Mr A K Agrawal, Chief General Manager (Technical Services), MECON Limited, Ranchi, the Eminent Speaker during the occasion, emphasized on new industrial drive namely 'Step up', involving multi-stage processes covering raw materials, energy input, yield and maintenance, able to support improvements in plant operations to efficiency levels commensurate with the steel industry's top performers. Earlier, Mr A Rajasekaran, General Manager I/C, Environmental Engineering Section, MECON LIMITED Ranchi and Executive Committee Member of Environmental Engineering Division, JSC Ranchi welcomed the dignitaries on the dais and the august audience. Mr M R Kumar, former Honorary Secretary, Jharkhand State Centre proposed the vote of thanks.

Karnataka

Karnataka State Centre of the Institution celebrated World Engineering Day for Sustainable Development on 4 March 2020. Mr K K Mahajan, Former General Manager, Tata Chemicals Ltd, Gujarat delivered Lecture on the theme of the Day. During his address, Mr Mahajan briefed about contribution of engineering fraternity in Sustainable Infrastructure Building; Manufacturing; Food Production; Sustainable Energy Production and Consumption; Maintaining Sustainable Environment and Eco-System;



Sustainable Creation and Use of Natural Resources; Minerals; Fuels; Renewable Energy Resources Development etc. Earlier, Mr Jasmail Singh, Chairman, Karnataka State Centre and Council Member, IEI welcomed the audience and at the end of the session, proposed vote of thanks. Mr M Nagaraj, Honorary Secretary, Karnataka State Centre introduced the speaker with the audience. Mr A S Kodanda Pani, Former Member, Architectural Engineering Division Board, IEI, the Convener during the occasion spoke about the theme.

Madhya Pradesh

Madhya Pradesh State Centre of the institution celebrated World Engineering Day for Sustainable Development on 4 March, 2020. Dr Jitendra Kumar Dubey, Engineer in Chief & Director (Technical), Madhya Pradesh Metro Rail Co. Ltd, Government of MP, the Chief Guest on the occasion spoke about all around sustainable development in infrastructure in terms of transport, healthcare,



buildings etc. Other speakers delivered Lectures during the occasion include Mr Sunil Joshi, Past Honorary Secretary, Madhya Pradesh State Centre, Dr Mukesh Kumar Mishra, Senior Faculty, SV Polytechnic College, Bhopal and Mr. Swajit Singh, Faculty, Sagar Institute of Science & Technology, Bhopal. Earlier, Mr Ranbir Singh Yadav, Chairman, Madhya Pradesh State Centre and Council Member, IEI delivered the welcome address. Mr Avinash Chandra, Honorary Secretary, Madhya Pradesh State Centre proposed the vote of thanks.

Maharashtra

Maharashtra State Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020. Dr Sunil S Bhagwat, Professor, Chemical Engineering Department, Institute of Chemical Technology (Deemed to be University), Mumbai, the speaker during the occasion mentioned that energy industry is a crucial part of the infrastructure and maintenance of society in almost all the countries. The speaker opined that it is essential to tackle the energy crisis through judicious utilization of abundant renewable energy resources, including, biomass energy, solar energy, wind energy and geothermal energy. The speaker further explained the concept of Exergy, which is a method of evaluating the quantity and quality of energy both at the same time and is useful in comparing the energy sources and allows better economic evaluation of processes, savings etc. The speaker further discussed various solar energy utilization technologies, application of thermal energy for absorption cooling and heating cycles etc.



Tamilnadu

The Institution of Engineers (India) Tamil Nadu State Centre celebrated the World Engineering Day for Sustainable Development on the theme "Sustainability in Infrastructure Development in India" on 14 March 2020 at IEI



TNSC auditorium, Chennai. Thiru K Pandiarajan, Hon'ble Minister for Tamil Official Language and Tamil Culture and Archeology, Government of Tamil Nadu was the Chief Guest. Hon'ble

Minister in his address felt that In India, engineers play a greater role in fulfilling the needs of the larger population around the world by constituting infrastructure in an easier way to navigate. Mr V Ranganathan, Deputy Director & Controller, Satish Dhawan Space Centre, SHAR, Sriharikota, ISRO and Dr T M Gunaraja, Immediate Past President, IEI & Chair, WFEO – CIC were the Guest of Honours during the occasion. Mr Ranganathan, in his speech made a very positive approach on budding Engineer's who are the boon to modern society and are being a driving force for country's development in every walk of life. Dr Gunaraja, in his address explained the significance and implementation strategy of Sustainable Development Goals. Earlier, Mr R Ramdoss, Chairman, Tamilnadu State Centre and Council Member, IEI welcomed the audience. Mr P Gomathi Nayagam, Honorary Secretary, Tamilnadu State Centre, IEI proposed the vote of thanks.

Telangana

Telangana State Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020. Dr S K Joshi, IAS, Advisor to Government (Irrigation), Government of Telangana graced the function as Chief Guest. Ms Sameena Begum, Research Associate, CSIR-Indian Institute of Chemical Technology Hyderabad delivered Invited talk on "Sustainable



Leachate Management and Treatment in India". Dr P G Sastry, Director & Head (L&D), Ramky Infrastructure Limited, Hyderabad delivered Invited talk on "Triple Bottom – line for Sustainability". A Technical Volume was released in this occasion. Earlier, Dr G

Rameshwar Rao, Chairman, Telangana State Centre and Council Member, IEI welcomed the audience. Mr T Anjaiah, Honorary Secretary, Telangana State Centre proposed the vote of thanks.

Uttar Pradesh

Uttar Pradesh State Centre of the Institution celebrated World Engineering Day for Sustainable Development on 4 March, 2020. Mr Subodh Shandar, Former Chief Town Planner, UP Housing Board & Former Dean of Faculty, Department of Architecture, Integral University, Lucknow was the Chief Guest during the function.

Mr Shandar, during his address defined Sustainable Development, that meets the needs of the present without compromising the ability of the future generation to meet their requirements. Dr Ravi Prakash Verma, Head of the Department, Information



Technology, Bansal Institute of Engineering & Technology, Lucknow graced the function as the Key Note Speaker. Mr V B Singh, Chairman, Civil Engineering Division Board and Council Member, IEI, the Convener of the function also addressed the audience. Earlier, Mr R K Trivedi, Chairman, UP State Centre and Council Member, IEI welcomed the guests and Mr Prabhat Kiran Chaurasia, Honorary Secretary, UP State Centre proposed vote of thanks. The programme was well attended by large number of Corporate Members and other dignitaries.

West Bengal

The Institution of Engineers (India), West Bengal State Centre, observed the World Engineering Day on 4 March, 2020. During the occasion, a delegation of Corporate Members from different Engineering Divisions along with engineering students and Faculty members of Techno India Batanagar visited Victoria Works Plant, Braithwaite & Co. Ltd. and witnessed different aspects

of wagon making. Further, in Sir R N Mookerjee Hall, West Bengal State Centre, the event was observed with the gracious presence of illustrious speakers, who had enlightened the audience with their thought provoking lectures. Prof Arunava Mazumder, Professor Emeritus, School of Water Resources Engineering, Jadavpur University delivered Lecture on the theme 'Municipal Solid Waste Management : Issues and Challenges'. Mr Yatish Kumar, Chairman and Managing Director, Braithwaite and Company Limited in his address stressed on sustainable development for the sense of good understanding, faith, awareness, fellow feelings and exposure in all levels of administration, management and production. Mr Shekhar Chakravarty, Managing Director, Conveyor & Ropeway Services Pvt. Ltd, delivered Lecture on the topic 'Innovation in Engineering : Global perspective'. In his address, Mr Chakravarty lucidly explained functional principles of Aerial Ropeways, non-Linear CURVO Ropeway System for Urban Communication etc. Mr Sisir Kumar Banerjee, Past President, IEI in his address highlighted the objectives of World Engineering Day for Sustainable Development. Mr Sujit Kumar Banerji, Council Member & Member, Mechanical Engineering Division Board, IEI was present during the occasion and addressed the audience. Earlier, Mr Kashmir Lal Mallik, Immediate Past Chairman, WBSC, IEI delivered the welcome address. Mr Kalipada Das, Honorary Secretary, WBSC, IEI proposed the vote of thanks.



LOCAL CENTRES

Agra

World Engineering Day for Sustainable Development was celebrated by The Institution of Engineers (India) Agra Local Centre on 4 Mar 2020 at Agra. Speaker during the function, Mr Umesh Chand Sharma, Environmentiest and Member, Taj Trapezium Zone Pollution (Prevention and Control) Authority,



Agra, explained different aspects of environmental conservations of heritage city Agra. Keynote speaker during the occasion, Mr Sameer Shrivastav in his address explained energy conservations in buildings and different energy saving modes. Earlier, Mr Devendra Singh Chaudhary, Honorary Secretary, Agra Local Centre welcomed the august audience.

Aligarh

The Institution of Engineers (India), Aligarh Local Centre celebrated World Engineering Day for Sustainable Development on 4 March 2020 at Aligarh. The Chief Guest Mr Tariq Ahmad Khan, Chief Engineer (Retd), Irrigation Department, Government of Uttar Pradesh shared his views on sustainable development through mutual brotherhood. Mr Ashwani Kumar, Executive Engineer (Retd), Irrigation Department, Government of Uttar Pradesh also addressed the gathering. Earlier, Mr Suresh Chandra Gupta, Chairman, Aligarh Local Centre, IEI delivered welcome address and introductory remarks. Dr Gyan Prakash, Convener and Immediate Past Chairman, Aligarh Local Centre, IEI proposed the vote of thanks.



Bareilly

The World Engineering Day for Sustainable Development on the theme 'Sustainability in Infrastructure Development in India' was celebrated by Bareilly Local Centre of the Institution on 4 March, 2020 at Bareilly. Mr Avinash Chandra, IPS, Additional Director General of Police, Bareilly, the Chief Guest during the function opined that India is on the threshold of a decisive moment in its growth path and also is on the cusp of major change. Mr Chandra further mentioned that with rapid urbanisation, the quantity and quality of energy for all its citizens subsequently improved with effective utilization of natural resources, that underpin lives and livelihoods and felicitates the possibility of sustained and sustainable growth. Mr R K Gupta, Vice President (Works), Dwarikesh Sugar Industries Limited., Faridpur, Bareilly, the Keynote speaker during the occasion mentioned that Sustainable Development meets the needs of the present without compromising the ability of future generations to meet their own needs. He further mentioned that development involving the natural products and energy without effecting environment, applying recycled materials or renewable resources, building a new community in a previously undeveloped area without destroying the ecosystem or harming the environment are the practical examples of sustainable development. Other speakers during the function include; Dr Hemant Yadav, Director, Prem Prakash Gupta Institute of Engineering and Management, Bareilly, Prof (Dr) Anuj Kumar, Head, Training, Development and Placement, SRMS College of Engineering and Technology, Bareilly and Mr K B Agrawal, Founder Chairman, Bareilly Local Centre, IEI. Earlier, Mr Sudhir Gupta, Chairman, Bareilly Local Centre welcomed the audience. Mr Saheb Singh, Honorary Secretary, Bareilly Local Centre, IEI proposed the vote of thanks to the speakers and all participants, for sparing their valuable time and making the World Engineering Day 2020 a grand success.



Belapur

World Engineering Day or Sustainable Development was celebrated at Belapur Local Centre on 4 March 2020. Dr M.B Dagaonkar, Council Member, IEI, the Keynote speaker for the event explained the significance of sustainable development. Welcome address was delivered by Mr



V C Kamble, Past Chairman, Belapur Local Centre, IEI. Mr P N Tandon, Past Chairman, Belapur Local Centre, IEI proposed the vote of thanks.

Bokaro Steel City

Mr Sanjay Sen, Chief General Manager, MECON Limited, Bokaro, Immediate Past Chairman, Jharkhand State Centre & Member ENDB, IEI, graced the occasion as Chief Guest. In his address, Mr, Sen emphasized the need of engineering and technology to accomplish 17 Sustainable Development Goals of UN. Special Guest during the session, Mr N P Srivastava, General Manager (Environment Division) SAIL, Bokaro Steel Plant, in his speech informed that engineers are the mandatory organ for resilience to the climate change and to develop inclusive technologies and innovations that will benefit people and planet for greater prosperity. During the function, Mr Nitesh Ranjan, Senior Manager (Environment), Bokaro Steel



Plant presented Paper on 'Sustainable Development – Roll of Technology'; Mr Aditya Dubey, Deputy Manager (C & IT) Bokaro Steel Plant presented Paper on 'Quality Education – MOOC (Massive Open Online Courses) and Mr C P Sahay, Ex-DGM, Bokaro Steel Plant presented Paper on 'Role of Female Engineer in SDGs Attainments'. Earlier, Mr Yogendra Nath Singh, Chairman, Bokaro Steel City Local Centre, IEI, in his welcome address mentioned that engineers are essential with right engineering skill for sustainable economic development. Mr Deo Prasad Jha, Honorary Secretary, Bokaro Steel City Local Centre, IEI proposed the vote of thanks.

Brahmapur

Brahmapur Local Centre of the Institution celebrated World Engineering Day for Sustainable Development on 4 March, 2020. Chief Guest of the occasion Lt. Col Shailesh Bansal, Superintendent Engineer, Indian Institute of Science, Education & Research, Berhampur, pointed out about the increased awareness



of the climate change and the consequential degradation of the eco-system. He emphasized for recoupment of the degraded environmental system by way of adopting various advanced technological

measures. Mr Surya Narayan Dhar, Principal, UCP Engineering School, Berhampur, Dr Jitendra Kumar Sahu, HoD, Mechanical Engineering Division, Sanjay Memorial Institute of Technology Degree Engineering College, Chandipadar, Berhampur addressed the audience and explained the systematic approach of energy utilization and conservation to meet the growing demand of the country as a whole. Earlier, Mr Ashutosh Patra, Immediate Past Chairman, Brahmapur Local Centre, IEI while welcoming the audience, highlighted on rapid increasing of energy demand and its effect on economic and environmental consequences thereof. Mr Patra further stressed on application of innovative, eco-friendly and cost effective sustainable energy technologies in order to achieve sustainable development in all spheres. Mr Surendra Kumar Panigrahi, Honorary Secretary, Brahmapur Local Centre, IEI briefed the audience about the theme.

Coimbatore

The Institution of Engineers (India), Coimbatore Local Centre celebrated World Engineering Day for Sustainable Development in association with Department of Civil Engineering, Coimbatore Institute of Technology, Coimbatore on 4 March, 2020 at Coimbatore. The Chief Guest during the function, Mr D Jayakandhan, Founder, Clean Toilet Organization, Coimbatore delivered Lecture on 'Sustainability in Infrastructure Development In India'. Earlier, Mr P R Natarajan, Chairman, Coimbatore Local Centre, and Council Member, IEI delivered the welcome address. The Session concluded with vote of thanks proposed by Dr H Ram Mohan, Honorary Secretary, Coimbatore Local Centre, IEI.



Dhanbad

Dhanbad Local Centre of the Institution observed World Engineering Day for Sustainable Development on 6 March, 2020 at BCCL Conference Hall, Koyla Bhawan, Dhanbad, in association with Bharat Coking Coal Ltd, Dhanbad. Mr Chanchal Goswami, Director (Technical), P & P, Bharat Coking Coal Limited, Dhanbad was the Chief Guest and Mr R Sharma, Ex Director General,



Directorate General of Mines Safety, Dhanbad, the Guest of Honour. Dr T N Singh, Ex Director, CSIR- Central Institute of Mining and Fuel Research, Dhanbad was the Keynote speaker during the function. Dr J K Pandey, Senior Principal Scientist, CSIR-Central Institute of Mining and Fuel Research,

Dhanbad and Mr Kumar Ranjeev, HOD (Env't), BCCL, Dhanbad were also present during the function and addressed the audience. Dr Satyendra Kumar Singh, Honorary Secretary, Dhanbad Local Centre, IEI proposed the vote of thanks.

Faridabad

The Institution of Engineers (India), Faridabad Local Centre celebrated World Engineering Day for Sustainable Development on the theme 'Sustainability in



Infrastructure Development in India' on 4 March 2020. Chief Guest during the function was Mr Rajesh Kumar, DGM, National Small Industries Corporation Limited, Faridabad. Ms Monika Anand, CEO, Anand Engg. Works and Ms Meenu Verma, Principal,

Government Polytechnic for Women, Faridabad were the Guest of Honours. Earlier, Mr Sandeep Handa, Chairman, Faridabad Local Centre, IEI while delivering the welcome address, explained that engineering play a key role in achieving the sustainable development goals as it utilizes the principles of science and mathematics to develop practical applications be it food, water, energy, environment and other areas which are crucial to all mankind.

Ghaziabad

Ghaziabad Local Centre of the Institution of Engineers (India), celebrated World Engineering Day for Sustainable Development on 4 March, 2020 at Ghaziabad. Dr Arindam Basu, Director General, Northern India Textile Research Association (NITRA) Gaziabad, the Chief Guest during the function, explained about the scope and opportunities of Sustainable Development in the field of Textile Engineering. Mr Arun Kumar Sharma, Chief Executive Officer, Ecube EPC India Private Limited, the Guest of Honour during the function, presented Lecture on 'Construction and Demolition Waste Recycling and Reutilization for Sustainable Circular Development'. Mr Sharma explained implementation of Waste Management Rules; Clean Sustainable Circular Economy Drive; Revival of Water Bodies; Reusable Material Recovery; De-silting Process; Zero Waste



City - Advantages, Suggested Steps and Schedule of Implementation. Mr Ajay Kumar Puthia, (Retd) General Manager, Northern Railway, the Guest of Honour during the function, presented Lecture on 'Regional Rapid Transit System - a Leap Forward'. He explained the working principle of Regional Rails, the transport solutions adopted by mega cities to control urban sprawl. Earlier, Mr Jai Pal Singh, Chairman, Gaziabad Local Centre and Council Member, IEI welcomed the guests and dignitaries and highlighted the importance of World Engineering Day. Mr Chitra Kumar Tyagi, Honorary Secretary, Gaziabad Local Centre proposed the vote of thanks. The function was well attended by Corporate Members of IEI and the Faculty of NITRA and other dignitaries.



The Institution of Engineers (India)



Appeal

Dear fellow Engineers,

As we are all aware the 'lockdown' has been further extended till 3 May 2020. I request you all to follow the Government guidelines and specially the 7 points mentioned in the Hon'ble Prime Minister's address to the Nation. Through our collective efforts, we will definitely overcome the **COVID -19** pandemic.

I take this opportunity to request all engineers to contribute generously in this noble cause by donating to **PM-CARES FUND** directly, with an intimation to IEI at director_finance@ieindia.org

Prevention is better than cure. Please take care & stay at home.

I look forward to your encouraging response.

14th April, 2020

Er. Narendra Singh, FIE
President, IE(I)

Important Notice

It has been observed that there are many Corporate Members of IEI whose mobile number/email id is not registered with IEI till date. Non availability of the mobile numbers and email ids precludes us not only from providing our full range of services but also from participation in the Online Election Process.

The Corporate Members whose mobile number/email id is not registered with IEI are therefore requested to kindly communicate their mobile no. and email id along with membership number to datamemb@ieindia.org by 10 May 2020.

For any further clarification, one may feel free to speak to us at (033)40106248/ 246/ 269/ 299.

Maj Gen (Dr) S Bhattacharya, VSM (Retd)
Secretary and Director General

IEI Join Hands with Various Certification Bodies to Nurture Engineers

IEI and The Institute of Cost Accountants of India have signed a MoU on 27 May 2019, Kolkata, to offer a course exclusively for engineers- "Executive Diploma in Cost & Management Accounting for Engineers". Here is a wonderful opportunity for all corporate members of IEI to enhance knowledge in the domain of finance and understand the framework of costing, accounting system etc. in various decision making processes.

IEI also ties up with Project Management Associates (PMA), on 3 Jun 2019, at Chennai, in an exclusive collaboration to build a project mindset through Project Management education "IPMA's level C and D Certification Programme" in the country. The program offers a golden opportunity for project professionals to acquire key knowledge and concepts in Project Management, based on the approach followed by the world's leading authority on competence based Project, Program & Portfolio Management- International Project Management Association (IPMA).

IEI members have the exclusive facility of enrolling in the courses at a discounted fee!

For details, Corporate Members may login to their respective dashboard (<https://www.ieindia.org/WebUI/IEI-Registration.aspx>) and submit their application under Certification --> IPMA.

Please visit www.ieindia.org under Certification for details. For further clarification you may call at: 033-40106304 or Email at certification@ieindia.org

IEI NEWS

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