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A CENTURY OF SERVICE TO THE NATION

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Number 2

## Thirty-third National Convention of Textile Engineers

### Two Decade of Nanotechnology in Textile: Progress and Prospects

Gujarat State Centre of the Institution organized Thirty-third National Convention of Textile Engineers & National Conference on Two Decade of 'Nanotechnology in Textile: Progress and Prospects' under the aegis of Textile Engineering Division Board (TXDB) of



IEI during February 20-21, 2020 at Ahmedabad. Hon'ble Energy Minister, Government of Gujarat, Mr Saurabh Patel, graced the occasion as Chief Guest. Mr Patel during his address, focused on the vibrant Indian Textile Industry of Gujarat which has been at the forefront of textiles in the country since many decades and lead further to drive the growth of Indian textile industry. The Hon'ble Minister mentioned that the tremendous growth in textile

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## Centenary Celebration of IEI by Kozhikode Local Centre

Kozhikode Local Centre of the Institution celebrated the Centenary Year of IEI on 7 March 2020. Hon'ble Governor of Kerala, Shri Arif Mohammed Khan graced the function as the Chief Guest. Hon'ble Governor, in his speech emphasized on the significance of training and development of engineers to survive with the fast moving technological challenges. Dr V O Rejini, Principal, Government College of Engineering, Kannur and Dr O Asokan, Former Director, Kerala State Electricity Board Limited were also present during the function and addressed the audience. The Keynote Address during the occasion was delivered by Dr Madhu



Kumar S D, Professor & Dean, Students Welfare, National Institute of Technology Calicut. Earlier, Mr C Jayaram, Honorary Secretary, Kozhikode Local Centre welcomed the gathering. Mr K Bhaskaran, Chairman, Kozhikode Local Centre presided over the function.

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## From the President's Desk.....



The global COVID 19 pandemic has effected nearly 188 countries across the globe with far-reaching consequences.

When the infectious disease disrespect national and international borders, and the pandemic preparedness capabilities is the need of the hour for the nation to confront such unseen threats, India's fruitful scientific effort through the brilliance and expertise of Indian scientists, engineers and technologists to fight the unprecedented epidemic crisis and protects the nation towards a healthy future is moving forward. At the outset, application of Artificial Intelligence offers new hope in effective pre-empting, preventing and combating the threats of infectious disease epidemics, which results enormous potential to revolutionize healthcare and population health through focused, context-specific interventions that promote cost-savings on therapeutic care, expand access to health information and services, and enhance individual responsibility for their health and well-being.

Artificial Intelligence with Machine Learning and Deep Learning approach is the most effective technological tool, through which, Engineers, Technologists and Data Scientists able to analyse epidemiological data to predict the epidemic progression at different phases of outbreak. Number of mathematical models have introduced in this respect with the objective to predict infectious disease dynamics based on which control measures can be taken well in advance to reduce the epidemic peak keeping in place strict monitoring and early detection. Further, the exercise of effective data integration, data management, extraction of knowledge and facts, applications of Epidemic Modeling, Simulation approach etc leads to disease oriented knowledge discovery, which include shared data repository, information and data mining for emergency response and so on. Another Artificial Intelligence with Deep Learning approach is Epidemic Forecasting, which is applied to forecast the outbreaks of infectious diseases by applying demographic, immunological or geographic data of outbreaks and crucial for deploying efficient prevention

## Two Decade of Nanotechnology in Textile: Progress and Prospects

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manufacturing has been achieved mainly due to strong raw material base, supply chain strength, availability of skilled manpower, uninterrupted power supply, favorable infrastructure, harmonious industrial relations climate, investment friendly state policy, spirit of entrepreneurship and world class research contributions of esteemed design and management institutions in the field of textile including Ahmedabad Textile Industry's Research Association (ATIRA), National Institute of Fashion Technology Gandhinagar (NIFT), National Institute of Design Ahmedabad (NID) and Indian Institute of Management Ahmedabad. Hon'ble Minister congratulated the Organising Committee for organizing National Convention of Textile Engineers at Ahmedabad, well known as Denim Capital of India. Mr Navinchandra B Vasoya, Past President, IEI, while addressed the august audience as Guest of Honour, briefed about the functioning, activities of IEI and the duties and responsibilities are being performed by IEI for the society and nation at large. Mr Sandeep B Vasava, Vice-President, IEI and Secretary, Roads & Building Department, Government of Gujarat, Mr M P Raval, Special Secretary, Saurashtra, Water Resources Department, Government of Gujarat were present during the occasion as Distinguished Guests. Mr Arunava Kundu, Chairman, Textile Engineering Division Board, IEI, presided over the function and briefed about the role of Textile Engineering Division Board of IEI. Prof P B Jhala, Convener of the National Convention, briefed about the theme of the Convention to the august audience.

Earlier, Mr H U Kalyani, Chairman, Gujarat State Centre, IEI in his welcome address mentioned that interest in Textile Engineering, as a rewarding professional career is fast growing with rapid advancements in technical textiles namely geo-textile, agro-textile, medical-textile etc, and Nanotechnology in Textile provides an ample opportunity of growth. Mr Shyam Varghese, Honorary Secretary, Gujarat State Centre, IEI proposed the vote of thanks.

On this occasion, Prof Ashwin I Thakkar, Head, Department of Textile Technology, L D College of Engineering, Ahmedabad; Mr Rajnikant Surajram Bachkaniwala, Director, Himson Textile Engineering, Surat; Prof Ashwini K Agrawal, Head, Department of Textile and Fibre Engineering, Indian Institute of Technology Delhi and Prof Pradyumansinh B Jhala, Former Research Advisor, National Institute of Design, Gandhinagar were felicitated as Eminent Engineering personalities during the occasion for their outstanding contributions in the field of textile engineering.

During the function, the IEI Young Engineers' Award in Textile Engineering Division for the year 2019-20 were presented to Dr J Krishnasamy, Assistant Professor, Department of Textile Technology, PSG College of Technology, Coimbatore and Dr Pintu Pandit, Assistant Professor, Textile Design Department, National Institute of Fashion Technology, Patna by the Chief Guest.

An E-Souvenir on "Two Decade of Nanotechnology in Textile: Progress and Prospects" was released during the occasion by the Chief Guest, and other

dignitaries present on the dais.

The prestigious S N Bhaduri Memorial Lecture was delivered on the topic "Bhaduri as Leader Manager" by Mr Ashok R Garde, Former Director, Ahmedabad Textile Industry's Research Association (ATIRA), Ahmedabad.

The State of the Art Lecture was delivered on the topic "Nano-engineering for Next Generation Textiles" by Prof (Dr) Ashwini Agrawal, Head, Department of Textile and Fibre Engineering, IIT Delhi.

In this occasion, a Panel Discussion was organized on "Future of Textile Engineering" and the Panelists comprised of Mr Rajnikant Bachkaniwala, Dr Ashwini Agrawal, Prof. Ashwin Thakker and Prof P B Jhala.

Several delegates from various Government Organizations/ Undertakings, Educational Institutions, and representatives of industry participated in the deliberations. There was very active participation and in-depth discussion during all the sessions.

Large number of Papers were presented during the technical sessions on diversified sub themes, which include; Nano Electro spinning; Application of Nano Fibre to Control Air Pollution; Effect of Pretreatments on Coating of Silver Nano particles on Jute Fibre; Development of Metal Coated Yarn using Plasma assisted Physical Vapor Deposition; Nano care finish on Cotton Fabric; Plasma based Nano Titania Production and its Self Cleaning Applications in Textiles; Atmospheric Pressure Air Plasma as an Eco-friendly Tool for Surface Modification of Textiles; Synthesis and DC Electrical Conductivity Measurement of Gum ghatti- cl- isoniazid and various amount of CoFe<sub>2</sub>O<sub>4</sub> Nano composites; etc.

The Valedictory Session was chaired by Dr Chandan Chatterjee, Former Director, Centre for Entrepreneurship Development, Govt. of Gujarat. Mr H U Kalyani, Chairman, Gujarat State Centre presided over the Session and welcomed the gathering. Mr Arunava Kundu, Chairman, TXDB, IEI was present on the dais and addressed the audience. Mr Shyam Varghese, Honorary Secretary, Gujarat State Centre. IEI proposed the vote of thanks. Prof. P. B. Jhala, Convener, presented the Recommendations emanated from the National Convention, which is as follows.

*Textile is an unique material and has immense growth potential as Technical or Functional Textiles; Young people should be motivated for Entrepreneurship Development through New Innovative Textiles; Nano-fiber Applications should be introduced for Next Generation of Textiles due to its high functionality; Economic Analysis of Electro-spinning Technology for Smart Fibers should be obtained; Plasma Metal Coating Yarns should be used for making Smart and Intelligent Textiles; Plasma Treatment of Raw Jute Fibres should be explored to impart Gold Rich Color to Fibres; Nano Finish Textile products should be adopted in Cotton, Wool and Silk Handlooms; Networking of Textile Research, Academic and Industry should be encouraged and supported.*

## From the President's Desk.....

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and control measures of infectious diseases. As a whole, the ability of Artificial Intelligence to augment strategic decision-making processes in infectious disease management is attributed to the speed of pattern recognition and the robust amount of data that are digested and analyzed for optimal health outcomes.

At this critical juncture, I request the Chairmen and Honorary Secretaries of State and Local Centres of the Institution to come forward and arrange Webinars on related topics, where meaningful deliberations will result feasible methodologies to forecast the epidemic trends well in advance and implement accurate control mechanisms.

Stay positive. The fresh dawn is not so far.

## Advances in Mining

**Dhanbad Local Centre** of the Institution, in association with CSIR- Central Institute of Mining & Fuel Research (CIMFR), Dhanbad organized National Conference on 'Advances in Mining' during February 14-15, 2020 at CSIR-CIMFR, Dhanbad under the aegis of Mining Engineering Division Board (MNDB), IEI. Hon'ble Governor of Jharkhand, Smt Droupadi Murmu graced the function as Chief Guest. During her address, Hon'ble Governor explained the significance and contribution of Mining sector in Indian economy. Mr Laxman Singh Shekhawat, Director (Operations), Hindustan Zinc Limited, graced the occasion as Guest of Honour. During his address, Mr Shekhawat highlighted that the advancements in mining is highly pertinent for safety and productivity with conservation of mineral and environment especially related to deep mines. Number of Papers were presented during the technical sessions embracing the sub theme, that include;

Sub theme – Underground Coal Mining: Advances and Challenges in Rock Mechanics in Continuous Miner based Mechanized Depillaring of Coal Pillars; Road Blocks in Mass Production Technology for Winning Coal from Bord & Pillar underground Mines in India; Rock Stability of Parting between Top and Bottom sections of a Coal Seam worked by Longwall Mining; Optimization of Coal Recovery using Different Cutting Pattern of Pillars in Continuous Miner Panel by Numerical Simulation Method; Issues and Approaches for the Underground Extraction of the Inclined Coal Seams; Geotechnical Issues for Underground Extraction of Coal by Continuous Miner in India.

Sub theme – Open Cast Mining: Ultimate Pit Design and Reserve Estimation of Surface Coal Mine in Minex Software; Enhancement of Stability of Over Burden Dumps using Fly Ash; Mining of Granites as Dimensional Stone in Andhra Pradesh and Telangana State, Technical and Management Strategies to Develop the Protocol for Early Warning System and Time of Failure (ToF) Prediction for Open Pit Slope Instability; Optimum Dump Slope Design of an Opencast Coal Mine; Advancements in Application of Wireless Sensor Networks vis-à-vis Monitoring of Slope Stability in Opencast Mines.

Sub theme – Environment: Assessment of the Radon Dose received by the Miners in Underground Work Places; Monitoring of Compliance of Environment Clearance & Forestry Clearance Conditions of Coal Mining Projects; Reflectance Properties of Different Rank of Coal in VNIR Band etc.

Sub theme – Underground Coal Mines: Bottom Ash - a Feasible Alternative to Sand for Stowing in Underground Coal Mines; Naive Bayes Classifier Approach for Strength Evaluation of Paste Fills for Underground Metal Mines; Raiseboring Technology; Squeezing Ground in Mining Excavations; Evaluation of Rock Mass Damage in an Underground Excavation; Statistical Analysis of Mine Accident with Special Reference to Firedamp and Coal Dust Explosion.



Sub theme – Rock Mechanics: A Study on Ratio of Uniaxial Compressive Strength and Crack Damage Stress Threshold of Sandstone based on Uniaxial Compression Tests; An Experimental Study on Influences of Cryogenic Quenching on the Mechanical Properties of Granite using Liquid Nitrogen; Web Pillar Design for Highwall Mining at Medapalli Opencast Mine; Significance of Mechanical Properties of Rock to Estimate Life of Cutting Picks; In-situ Stress Estimation and Measurement in Underground Coal Mines; Design of Rockfall Barrier for a Road cut Slope in Hilly Region etc.

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## Centenary Celebration of IEI by Durgapur Local Centre

**Durgapur Local Centre** of the Institution celebrated Centenary Year of IEI and concurrently observed National Science Day on 28 February, 2020. The Chief Guest during the function, Prof Amitabha Ghosh, Honorary Scientist of The Indian National Science Academy, Honorary Distinguished Professor, IEST Shibpur, Former Professor, IIT Kanpur & Former Director, IIT Kharagapur enlightened the audience with his thought provoking Lecture on "The Discovery of Dynamics and the Little Known Story of  $F=ma$ ". In his presentation the erudite speaker enlightened the audience about various discoveries related to motion & dynamics, transitory concepts those led to the discovery of the fundamental laws of motion, Newtonian Mechanics, Terrestrial and Celestial motions and so on. Earlier, Prof. K. C. Ghanta, Chairman, Durgapur Local Centre and Council Member, IEI welcomed the august audience. Mr M K Biswal, Honorary Secretary, Durgapur Local Centre proposed the vote of thanks.



## ARM Processor

**Karnataka State Centre** of the Institution in association with Department of Electronics and Communication Engineering, Bangalore Institute of Technology (BIT), Bengaluru organized All India Seminar on the topic 'ARM Processor' under the aegis of Electronics & Telecommunication Engineering Division Board of IEI during October 25-26, 2019 at Bengaluru. Dr Aswath M U, Principal, BIT, in his address explained Micro-controller as the heart of the embedded system, particularly suited for real time control applications with on chip program memory and devices. 'Over the years, Advanced Risk Machines (ARM) has continued to develop new processor and system blocks', he added. Dr Aswath further highlighted functional aspects of ARM CORTEX-M3 processor architecture. Mr M Nagaraj, Honorary Secretary, Karnataka State Centre, while speaking on the significance of the theme, enumerated that an ARM Processor is one of the family of CPUs based on the RISC (Reduced Instruction Set Computer) architecture developed by ARM, able to produce 32-bit and 64-bit RISC multi-core processors. 'RISC processors are designed to perform a smaller number of types of computer instructions so that they can operate at higher speed, performing more millions of instructions per second (MIPS)' he added. While presided over the valedictory function, Mr Jasmail Singh, Chairman, Karnataka State Centre and Council Member, IEI mentioned that ARM processors are extensively used in consumer electronic devices such as smart phones, tablets, multimedia players and other mobile devices, such as wearable's. 'Because of their reduced instruction set, they require fewer transistors, which enables a smaller die size for the Integrated Circuit (IC), he added. Prof Hemanth Kumar, Committee Member, Karnataka State Centre proposed the vote of thanks. The Seminar presented an open forum for the



industrialists, researchers and engineers to deliberate and explore the latest innovations and research advancements in the area of ARM Processor and its advanced applications. Number of papers were presented embracing the sub theme, which include; ARM and LDPC Processor Architecture and its Programming; Programming concepts and interfacing devices of CORTEX M3 family; LPC168 CortexM3 Microcontroller kit and programming with Flash Magic etc.

## Best Practices and Applications of TQM in Industry and Academia

**Karnataka State Centre** of the Institution in association with Belagavi Local Centre, IEI and SG Balekundri Institute of Technology, Belagavi organized All India Seminar on the topic 'Best Practices and Applications of TQM in Industry and Academia' under the aegis of Production Engineering Division Board of IEI during November 16-17, 2019 at Bengaluru. Prof (Dr) Sidramappa



Vaman Itti, Chairman, Belagavi Local Centre and Principal, S G Balekundri Institute of Technology, in his address explained Total Quality Management as one of the key management tool that is currently driving today's industry. Prof. Itti mentioned that TQM has been successfully applied in multinational firms/organizations, educational institutions, educational processes and application of TQM principles in academia, that need to be reexplored futher. Prof Itti also stressed on the need of quality work in today's world and asked the students to be hopeful with sheer determination and perseverance for recognition of the true talent. Mr Jasmail Singh, Chairman, Karnataka State Centre and Council Member, IEI in his welcome address explained that TQM in higher education is a process that involves the institutions adopting a total quality approach to the entire academic process and environment so that the needs of the students and those of their employers are best served. 'It is the never ending pursuit of continuous improvement in the quality of education provided to the students and the satisfaction of the other stakeholders', he added. Mr B G Dharenni, Honorary Secretary, Belagavi Local Centre, IEI proposed the vote of thanks. Number of papers were presented embracing the principles of TQM, which include; Implementation of LEAN and KAIZEN; Emotional intelligence as a catalyst for inspirational leadership to achieve organizational excellence; Different models of TQM etc.

## Awareness on Radiation Safety in Social Benefits of Radiation Sources

**Madurai Local Centre** of the Institution in association with Atomic Energy Regulatory Board (AERB) organized All India Seminar on the topic 'Awareness on Radiation Safety in Social Benefits of Radiation Sources' under the aegis of Chemical Engineering Division Board of IEI and Safety & Quality Forum (SQF) of IEI during November 25-26, 2019 at Madurai. The Chief Guest of the function, Mr G Nageswara Rao, Chairman, Atomic Energy Regulatory Board, in his address explained different aspects of ultra-violet



radiations and energy release in the form of radiations. He further mentioned that in the year 1939, fission of Uranium in Reactor was used for generation of electricity, and the radiations are used for diagnostic and investigation purpose in healthcare as well as in industrial and agricultural field. Earlier, Mr S Rajagopal, Chairman, Madurai Local Centre and Council Member, IEI, delivered the welcome address. Mr R Ramdoss, Chairman, Tamilnadu State Centre and Council Member, IEI, Mr P Rajamani, Council Member, IEI, Dr W S

Aruldoss Kanthiah, Convener of the Seminar, Dr. A. U. Sonawane, Secretary to the Board and Head, Directorate of Regulatory Affairs & Communications (DRA&C), AERB and Mr R Narayanasamy, Honorary Secretary, Madurai Local Centre also graced the occasion and addressed the august gathering. The Seminar was well attended by the medical and radiation professionals and delegates from industry and academia.

Eminent speakers presented papers during the technical sessions on emerging topics, which include; Application of ionizing radiation sources in healthcare; Industrial radiography; Regulation and radiation protection in ionizing radiation sources; AERB's e-Licensing system for radiation applications; Safety in Indian Nuclear power projects etc. A Panel Discussion was also organized during the occasion.

*Recommendations as emerged from the Seminar are given hereunder:*

*In the near future, electricity requirement will increase by 30%, coal requirement by 53% and water shortage will increase by 40%. But there will not be any increase in availability of land, water, fossil fuel. Hence the only alternative to meet the power requirement will be Atomic Energy. Hence the Nuclear Power Ratio has to be increased in the Power mix; The contribution of Radiation in healthcare is increasing day by day in diagnostics, treatment etc. More research is required for treatment of cancer by direct exposure of Radiation without damaging the live cells; In agriculture, the technology for preservation and life enhancement should be cost effective for extensive usage in local market; In industry, beside instrumentation, application of Radiation for Non destructive testing is to be widely used by creating awareness and introducing more low cost testing equipment.*

## Waste to Energy Technology

**Madhya Pradesh State Centre** of the Institution organized All India Seminar on the topic 'Waste to Energy Technology (WTET-2019)' under the aegis of Chemical Engineering Division Board of IEI during November 23-24,



2019 at Bhopal. Dr Avnish Kumar Srivastava, Director, CSIR- Advanced Materials and Processes Research Institute (AMPRI), Bhopal graced the occasion as the Chief Guest. Dr Srivastava, in his address emphasized on minimization of waste generation and research and development on

waste management. The Guest of Honour during the function, Dr A P Singh, Deputy Director, Health & Safety, Bhopal in his speech explained different aspects of industrial health and safety. Mr P P Agrawal, former Council Member, IEI, in his address discussed about waste to energy technology and government policy. Earlier, Mr Neeraj Dave, Chairman, MP State Centre welcomed the august audience. Dr Bharat Modhera, Organizing Secretary of the event proposed the vote of thanks. During the technical sessions, papers were presented by eminent speakers on different sub theme, that include; Energy production from waste biomass; Wastewater treatment and electricity generation with Graphite Cathode and Composite Anode; Extraction of cellulose microfibrils from various plants; Synthesis of biodegradable plastics and characterization of processed biodegradable plastics and cellulose; Coupling of bio-sorption and electrochemical strategies for waste to energy conversion; Biomass gasifier; CO<sub>2</sub> separation from natural gas by polycarbonate with SAPO-34 matrix membrane etc.

# News-in-Brief

The following is a brief account of Technical Activities organised by various Centres of the Institution

## STATE CENTRES

### Karnataka

Workshop on 'Vision Zero' on the occasion of National Safety Day on 4 March, 2020.

Organized National Safety Day on 4 March, 2020 in association with Bravee Multiskilling Academy Workshop on the theme "Vision Zero" with a mission to build a culture of injury prevention at work, on road, at home and in the community and to spread safety awareness in all sectors.

### Maharashtra

Lecture on the 'Anecdotes after Hammurabi - the Stories of Construction Law around Us' delivered by Ms Aishwarya Suratwala, AVS Technolegal, Worli, Mumbai on 6 March, 2020.

Lecture on the Topic: 'Anecdotes after Hammurabi - the Stories of Construction Law around us' on 6 March, 2020 by Mrs. Aishwarya Suratwala, AVS Technolegal, Worli, Mumbai.

### Telangana

Lecture on 'Sustainable Development Goal 7 – Affordable and Clean Energy' delivered by Dr P Narayana Rao, Former Member, APPCB on 24 February, 2020.

Dr J Purushottam Fourteenth Endowment Lecture on 'Space and Planetary Exploration by ISRO, Chandrayan Beyond' delivered by Mr J A Kamalakar, Director, ISRO (Retd), Professor Satish Dhawan URSC, ISRO, Bangalore on 1 March, 2020.

Observed National Safety Day on 4 March, 2020. The Chief Guest and Theme Speaker during the occasion, Prof G Chandra Mohan Reddy, Department of Mechanical Engineering, CBIT, Hyderabad delivered Lecture on "Enhance Safety & Health, Performance by Use of Advanced Technologies".

Observed World Earth Day through Video Conference on 22 April, 2020. Major Dr Bakhtiar Choudhary, Director & Senior Consultant, Hyderabad Spine Clinics graced the function as Chief Guest and delivered a talk on "COVID -19 & Measures to Contain it".

Organized ErKoka Krishna Mohan Rao Thirtieth Endowment Lecture through Video Conference on 23 April, 2020. Mr D V Bhavana Rao, Former Chief Engineer, Roads and Buildings Department, Government of Andhra Pradesh, graced the occasion as Chief Guest and delivered ErKoka Krishna Mohan Rao Endowment Lecture on the topic "Construction and Quality Control of Reinforced Soil Wall". During his address, the speaker explained the construction and quality aspects about RS walls with reference to MORTH specifications and as per IRC: SP:102 Code.

Organized World Day for Safety and Health at Work - 2020 on 28 April, 2020 through Video Conference. Dr D Dwarakanatha Reddy, Vice President, IMA Telangana State and Consultant ENT Surgeon graced the occasion as Chief Guest and delivered Lecture on "Stop the Pandemic: Safety and Health at Work Can Save Lives" in a lucid way and explained various aspects related to COVID-19 and safety measures to be taken at workplace.

## LOCAL CENTRES

### Ahmednagar

As a part of Centenary Celebration of IEI, Ahmednagar Local Centre of the Institution organised the Foundation Stone laying Ceremony of IEI Building on 7 March 2020. The Foundation Stone was laid at the auspicious hands of Padma Bhushan Mr Baba Kalyani, Chairman and Managing Director, Bharat Forge Ltd.

### Kalaburagi

Lecture on 'Engineering for Sustainable Development' delivered by Prof Sushilkumar Bijapure, Assistant Professor, Department of Mechanical Engineering, Sharanabasava University, Kalaburagi on 8 March, 2020.

### Ranipet

Lecture on 'Enhance Safety & Health Performance by Use of Advanced Technologies' on the occasion of 49th National Safety Day delivered by Mr L Purushothaman, Assistant Engineer, Safety Department, BHEL, Ranipet on 12 March, 2020.

### Tirunelveli

Organized 'Mega Job Fair 2020' on 8 March, 2020.

### Tiruvallur

Observed World Earth Day through Video Conference on 2 May, 2020.

### Tiruchirappalli

Lecture on 'Smart Metering – Technology and Benefits' on 3 May, 2020 through Video Conference by Dr M P Selvan, Associate Professor, Electrical & Electronics Engineering Department, National Institute of Technology, Tiruchirappalli.

Lecture on 'Challenges and Contributions of Engineering Institution to Combat Covid 19' on 12 May, 2020 through Video Conference by Prof. (Mrs.) Mini Shaji Thomas, Director, National Institute of Technology, Tiruchirappalli.

### Madurai

Lecture on 'Use of Ground Granulated Blast Furnace Slag for Supplementary Cementations Material' on 29 February, 2020 by Dr L R Manjunatha.

### Saurashtra

Organised Memorial Lecture on the memory of Late Mr B J Vasoya, Past President, IEI and Founder Chairman, Saurashtra Local Centre, IEI on the theme 'Total Quality Management – The Way of Perception' on 18 February, 2020 during celebration of 51st Foundation Day of Saurashtra Local Centre during 18-19 February, 2020. Mr R M Makwana, Superintending Engineer, Irrigation Project Cycle Rajkot graced the occasion as Chief Guest. Prof (Dr) G D Acharya, Principal, Atmiya Institute of Technology & Science, Rajkot was the theme speaker during the occasion.

Celebrated International Women's Day on 7 March, 2020

Organised Conference on 'Shaping Young Minds' in association with CII Bhavnagar on 13 March, 2020.

# One Day Seminars/Workshops Conducted by Various Centres of IEI

## LOCAL CENTRES

### Coimbatore

Coimbatore Local Centre of the Institution in association with Akshaya College of Engineering and Technology, Coimbatore organized One Day Seminar on **Impact of Computational Intelligence in Wireless Sensor Networks** on 31 January, 2020 under the aegis of Computer Engineering Division Board, IEI. The objective of the Seminar is to analyze and explore different aspects of Wireless Sensor Networks (WSNs), the networks of distributed autonomous devices that can sense or monitor physical or environmental conditions, and applied in monitoring environment, habitat, healthcare, structural health etc and prediction and detection of natural calamities. The Seminar also provided the useful platform for deliberation on recent advancements of Computational Intelligence (CI). Paradigms of Computational Intelligence have been successfully applied in recent years to address various challenges including data aggregation and fusion, energy aware routing, task scheduling, security, optimal deployment and localization. CI provides adaptive mechanisms that exhibit intelligent behaviour in complex and dynamic environments like WSNs. CI brings about flexibility, autonomous behaviour, and robustness against topology changes, communication failures and scenario changes. The researchers can make use of potential CI algorithms to overcome the challenges in Wireless Sensor Network. The Seminar includes some of the WSN challenges and their solutions using CI paradigms. Mr Kathiravan Velusamy, Advisory Software Engineer, IBM Software Lab, Bangalore graced the occasion as Chief Guest. Mr Velusamy, in his address explained the functional aspects of IBM Watson and AI solutions. Papers were presented on diversified sub theme, that include; Software Architecture, WSNs and CI, Machine Learning and Artificial Intelligence, Industrial IoT etc. Earlier, Mr P R Natarajan, Chairman, Coimbatore Local Centre and Council Member, IEI welcomed the audience.



Coimbatore Local Centre of the Institution organized One day Workshop on **Implications of Machine Learning in Smart Manufacturing: Challenges and Opportunities** on 22 February, 2020 under the aegis of Production Engineering Division Board, IEI at PSG College of Technology, Coimbatore. Mr Surendran Devaraj, Product Director- Artificial Intelligence, Maxbyte Technologies, Coimbatore graced the function as Chief Guest. Mr



Surendran in his address highlighted the issues based on implementation of Internet of Things in manufacturing and the challenges being faced by the industries pertaining to implementation of Industry 4.0. Mr Surendran also delivered Lecture during technical sessions on the topic 'Smart Manufacturing'.

Eminent resource persons shared their expertise on Big Data, IoT, Machine

Learning, Industry 4.0, AI based Solutions in manufacturing etc. During the Workshop, papers were presented on 'Thermal Model for Fracture Strain in Smart Manufacturing of Sheet Metal Components by Electrically assisted Incremental Sheet Metal Forming Process' and 'Multi Attribute Decision Making TOPSIS Approach in Smart Manufacturing'. Earlier, Dr M Senthilkumar, Immediate Past Honorary Secretary, Coimbatore Local Centre and HoD i/c, Department of Production Engineering, PSG College of Technology, Coimbatore welcomed the audience.

### Salem

The Indian Textile sector is one of the largest contributing sectors of India's exports, which is also one of the largest employers. The growth and all round development of this labor intensive industry has direct effect on the improvement of the India's economy. There are number of export promotion policies for the textiles sector. Cotton prices have stabilized and the steep decline in the prices of crude oil has made synthetic fibers more affordable. The relentless effort of Indian exporters to diversify into new markets in the context of demand recession in traditional markets in recent years has started showing positive results. The recent measures taken by the government would help to augment investment in the manufacturing sector including the textile industry. The fundamental strength of this industry flows from its strong production base of wide range of fibers / yarns from natural fibres like cotton, jute, silk and wool to synthetic /man-made fibers like polyester, viscose, nylon and acrylic. In India, the textile industry is the single largest industry with large number of population is employed directly or indirectly in the



textile mills located in different parts of the country. At the outset, Salem Local Centre of the Institution organized One Day Seminar on **New Trends in Industrial Textiles** on 22 January, 2020 under the aegis of Textile Engineering Division Board, IEI at Thiagarajar Polytechnic College, Salem. Eminent resource persons enlightened the audience by sharing their expertise in the field of Industrial and Technical textiles. Mr P Babu, Balaji Textile Agency, Salem delivers the Lecture on 'Recent Manufacturing Techniques for the Industrial Textile Products'; Mr D Gopalakrishnan, Department of Fashion Technology, PSG College of Technology, Coimbatore delivered Lecture on 'Testing Procedures for the Industrial Textiles'. Dr C Prakash, Associate Professor, Department of Fashion Technology, Sona College of Technology, Salem delivered Lecture on 'New Fibres used for various Industrial Textile Product Manufacturing'. Mr M Venkatesan, Managing Partner, Avinashi Silk, Salem delivered Lecture on 'Modern Processing and Finishing Technology used for The Industrial Textile Products' and Mr B Munusamy, HOD i/c, Department of Textile Technology, Thiagarajar Polytechnic College, Salem delivered Lecture on 'Air Filters'. Earlier, Mr D Arul Selvan, Chairman, Salem Local Centre, IEI, delivered the welcome address. Dr V Karthikeyan, Principal, Thiagarajar Polytechnic College, Salem was also present during the function and addressed the audience. Mr S Loganathan, Honorary Secretary, Salem Local Centre proposed vote of thanks.

Salem Local Centre of the Institution, in association with Department of Civil Engineering, Thiagarajar Polytechnic College, Salem organized One Day Seminar on the theme **Drone Technology in Construction Engineering**

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# 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 04 March, 2020. Brief accounts of the celebration as received from various Centres are reported hereunder.**

## LOCAL CENTRES

### Angul

Angul Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020 at NALCO, Angul. Mr M P Mishra, Executive Director, S & P Complex, NALCO, the Chief Speaker during the occasion in his address stressed upon the role of engineering and technology for sustainable development in Power & Aluminium sector. Other dignitaries present during the function from NALCO include; Mr A.K Swain, General Manager(Projects), Mr M Dash, General Manager (Smelter), Mr A P Panda, General Manager(CPP), Mr N K Mondal, General Manager (O&M) Smelter, Mr S K Acharya, General Manager (Mines) and Mr S K Mishra, General Manager (O & M), CPP, Smelter. Mr Y Pattanayak, Vice President, Nav Bharat Ventures Limited (NBVL) was among the distinguished guests present on the occasion. The program was well attended by the dignitaries from industries including NALCO, NBVL, Jindal Steel Plant, GMR, Angul, Tata Steel BSL etc. Earlier, Mr Siba Ram Panda, Honorary Secretary, Angul Local Centre welcomed the audience. Mr Surendra Kumar Dogra, Immediate Past Chairman, Angul Local Centre, IEI introduced the topic to the august gathering. Mr Satyabadi Mishra, immediate past Honorary Secretary, Angul Local Centre, IEI proposed the vote of thanks.



and innovation towards attainment of sustainability in integrated manner. Dr Gopinath, in his address mentioned that innovative technologies and effective implementation of the same is the need of the hour for the betterment of the society. The young engineers should be motivated and groomed to come out with more startups to contribute in national level, he added. Earlier, Prof (Dr) Ramesh Laxman Chakrasali, Chairman, Dharwad Local Centre welcomed the audience. Mr Vijaykumar H Totiger, Honorary Secretary, Dharwad Local Centre proposed the vote of thanks.

### Durgapur

The Institution of Engineers (India), Durgapur Local Centre observed World Engineering day for Sustainable Development on 4 March, 2020 at Durgapur. Mr R K Bhattacharyya, Jt General Manager, MECON India Ltd., Durgapur graced the function as Chief Guest and Prof (Dr) Nirmal Baran Hui, Mechanical Engineering Department, NIT Durgapur as Guest of Honour. The Chief Guest in his address explained different aspects of smart city, public health and safety, national highway grid, state road network, ring roads in major cities, power at affordable rates, gas and water grid, regional airports, industrial and dedicated freight corridors, affordable housing for all, water management, boost to electric vehicles, electricity and clean cooking facilities to rural families, access and application of renewable energy etc. Prof Hui in his address explained Fourth Industrial Revolution, role of Robots, its implications for India, and India's readiness towards this revolution. He further briefed about the opportunity and challenges in this field with special focus on India. Earlier, Prof (Dr) Kartik Chandra Ghanta, Chairman, Durgapur Local Centre and Council Member, IEI welcomed the audience. Dr Chittatosh Bhattacharya, Deputy Director, National Power Training Institute, Durgapur was also present during the occasion and addressed the audience.



### Dharwad

Dharwad Local Centre of the Institution observed World Engineering day for Sustainable Development on 4 March, 2020. Mr Ajay Kumar Singh, General Manager, South Western Railways, Hubballi graced the function as Chief Guest and Dr K Gopinath, Principal, Shri Dharmasthala Manjunathe Shwara College of Engineering and Technology (SDMCET) Dharwad, the Guest of Honour. Mr Singh, in his address opined that self-realization leads to transformation which serves as the basic tool for achieving sustainability. He called upon the engineering fraternity to enhance the intrinsic strength through balanced synchronization of body, mind and soul and highlighted the importance of practicing values, developing eco-friendly systems. He further added that the societal needs can be effectively addressed by way of integration of emergent technologies i.e. Industry 4.0, Artificial Intelligence & Big Data



### Gorakhpur

Gorakhpur Local Centre of the Institution observed World Engineering day for Sustainable Development on 4 March, 2020. Dr Govind Pandey, Dean, Madan Mohan Malaviya University of Technology Gorakhpur, Mr M P Kandoi and Mr Raghav Prasad Shukla were present during the occasion and addressed the gathering during the occasion. Earlier, Mr Dharendra Chaturvedi, Chairman, Gorakhpur Local Centre delivered the welcome address. Mr Ved Prakash Gupta, Honorary Secretary, Gorakhpur Local Centre proposed the vote of thanks.





## Gwalior

Gwalior Local Centre of the Institution organized World Engineering Day for Sustainable Development on the Theme “Sustainability in Infrastructure Development in India” on 4 March, 2020 at Gwalior Local Centre, IEI. The Chief Guest during the occasion, Mr K K Saraswat addressed the audience on the theme. Dignitaries present during the occasion delivered Lecture on the purpose and objectives of the World Engineering Day for Sustainable Development, role of Engineers in promoting Sustainable Development. Earlier, Mr Prabhat Kumar Bhargava, Chairman, Gwalior Local Centre welcomed the audience. Mr P Y Khanwilkar, Honorary Secretary, Gwalior Local Centre proposed the vote of thanks.



## Hosur

Hosur Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020. Mr Anantha Padmanabha, Additional Director (Systems) and Scientist, Centre for Military Airworthiness and Certification, DRDO graced the occasion as Chief Guest. Mr N Venkatramani, Project Management Consultant, the Guest of



Honour during the occasion delivered Lecture on “Sustainable Development for Infrastructure in India”. Mr P Subramanyam, Assistant General Manager, Ashok Leyland Ltd, Hosur delivered Lecture on “Sustainability Journey on Energy Conservation”. Dr G Ranganath, Council Member, IEI was present during the occasion and addressed the audience. Earlier, Prof (Dr) Ms T Menakadevi, Chairperson, Hosur Local Centre welcomed the gathering. Mr P Murugesu Pandian, Honorary Secretary, Hosur Local Centre delivered the vote of thanks.

## Jabalpur

Jabalpur Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020. Mr R K Mishra, IAS, Divisional Commissioner, Jabalpur Division graced the function as Chief Guest and Mr Rajendra Rai, Chief Executive Officer, Jabalpur Development Authority, Guest of Honour. Mr Rakesh Kumar Rathore, Council Member, IEI was present during the function and addressed the gathering. Earlier, Mr Tarun Kumar Anand, Chairman, Jabalpur Local Centre welcomed the audience. Mr Prakash Chandra Dubey, Honorary Secretary proposed the vote of thanks to all dignitaries, participants and guests for their valuable support in organising the function.



## Jammu

Jammu Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020 at Jammu. A Seminar on ‘Sustainable Development’ was organized in this occasion. Mr B B Sharma, Former Chief Engineer, Government of Jammu & Kashmir & Past Chairman, Jammu Local Centre, IEI graced the function as Chief Guest. The function was well attended by large



number of Engineers from industry, academia and different organizations. The speakers, Mr Ishan Verma, Mr P K. Nanda, and Mr Anil Verma, while delivering Lectures on Sustainable Development, touched different imperative issues for the engineers, planners, policy makers and public at large to adopt sustenance of technological developments in all spheres of life without depletion of natural resources. Earlier, Mr Ajay Gupta, Former Chairman, Jammu Local Centre welcomed the audience. Mr C Paul Sharma, Honorary Secretary, Jammu Local Centre and presented the vote of thanks to the august gathering.

## Jodhpur

The Institution of Engineers (India), Jodhpur Local Centre observed World Engineering Day for Sustainable Development at Jodhpur on 04 March, 2020 in association with Civil Engineering Department, Jodhpur Institute of Engineering & Technology (JIET). The function was inaugurated by Prof (Dr) K K Paliwal, Director, JIET. Prof (Dr) Rajendra Karwa, Department of Mechanical Engineering, JIET delivered Keynote address on ‘Sustainable Development’. Mr Ghanshyam Prasad Vaishnav, Honorary Secretary, Jodhpur Local Centre proposed the vote of thanks.



## Kanpur

Kanpur Local Centre of the Institution in association with Department of Civil Engineering, Harcourt Butler Technical University (HBTU), Kanpur celebrated World Engineering Day for Sustainable Development on 4 March, 2020 at the Department of Civil Engineering, HBTU, Kanpur. Dr Santosh Kumar, Managing Director, Vam Consulting Engineers & Architects Private Limited Kanpur, the theme speaker during the function delivered Keynote Lecture on the theme “Sustainability in Infrastructure Development in India”. During his address, Dr Kumar mentioned that the future of the planet depends upon collective wisdom of the nations in resolving the



key issues affecting the planet, people, peace and prosperity. There has been growing awareness in the industry to replenish the earth’s resources and reduce the carbon footprint of the built environment. The speaker called upon the engineering professionals to identify products that both meet sustainability requirements and fulfill the demand of construction industry. The speaker further mentioned that to meet the challenges of sustainable infrastructure while keeping the environment unharmed, green initiatives is the single alternative, that leads to search for alternative materials, waste recycling, optimized designs, conservation of water & energy, reduction of carbon footprint, sustainable construction technologies and regeneration of environment. Earlier, Prof (Dr) Pradeep Kumar, Past Chairman, Kanpur Local Centre and Controller of Examinations, HBTU, Kanpur welcomed the audience. The programme ended with vote of thanks proposed by Dr Rajat Kumar Khare, Honorary Secretary, Kanpur Local Centre. The programme was well attended by the Corporate Members, students and invitees from different organizations.

## Kochi

The World Engineering Day for Sustainable Development was observed by Kochi Local Centre, IEI at Kochi on 3 March, 2020. Dr Anil Joseph, Managing Director, Geo Structural Private Limited, Kochi was the theme speaker during the occasion. Mr T P Raveendran, Chairman, Kochi Local Centre and Council Member, IEI welcomed all present in the function. Mr

Mr P Eldhose, Honorary Secretary, Kochi Local Centre proposed the vote of thanks.

### Kota

The World Engineering Day for Sustainable Development was observed by Kota Local Centre of the Institution on 4 March, 2020 in association with Indian Buildings Congress, Kota Chapter and M/s Ultratech Cement Ltd at Kota.



Hon'ble Vice Chancellor, Rajasthan Technical University, Prof R A Gupta was present during the function as Chief Guest. During his address, Prof Gupta emphasized on energy conservations. The Keynote speaker during the occasion, Mr Harish Kumar Arora, Energy Manager & Asst General Manager, Power House Maintenance, M/s Shriram Rayons, explained Green Building concept and energy saving measures in residential and commercial buildings. Earlier, Mr Anand Bardava, Chairman, Kota Local Centre welcomed the audience. Mr Sunil Bohra, Honorary Secretary, Kota Local Centre proposed the vote of thanks.

### Meerut



Meerut Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020 at Meerut. Mr B D Sharma, Convener, Indian Water Resources Society, Meerut Chapter was the Keynote speaker during the occasion. Earlier, Mr Rajneesh Kumar, Chairman, Meerut Local Centre welcomed the audience. Mr Mohan Lal Jain, Honorary Secretary, Meerut Local centre proposed the vote of thanks.

Meerut Local Centre welcomed the audience. Mr Mohan Lal Jain, Honorary Secretary, Meerut Local centre proposed the vote of thanks.

### Nashik

The Institution of Engineers (India), Nashik Local Centre in association with the University Institute of Chemical Technology, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon observed the World Engineering Day for Sustainable Development on 4 March 2020. During the occasion, a Workshop on "Industry on Wheel – Mobile Food Procession Unit" was organised. Dr V R Parate, Associate Professor, Indian Institute of Food Processing Technology, Bathinda, the resource person during the occasion explained the associated Sustainable Development for farmers in food processing. The programme was well attended by the Corporate Members, students and other dignitaries.



Meerut Local Centre welcomed the audience. Mr Mohan Lal Jain, Honorary Secretary, Meerut Local centre proposed the vote of thanks.

### Palghat

Palghat Local Centre of the Institution observed the World Engineering Day for Sustainable Development on 4 March, 2020 at Palakkad. Mr K.Madhana Mohan, Deputy Chief Electrical Engineer (Retd), Integral Coach Factory, Indian Railways, Chennai was the guest speaker during the occasion, who delivered Lecture on the theme of the Day "Sustainability in Infrastructural Development in India". During his address, Mr Mohan emphasized on sustainable infrastructure development through the optimal balance between

the social, environmental, and economic dimensions of sustainability taking into account the views from stakeholders and public participation and further explained proactive approach of Indian Railways for sustainable infrastructure development. He further explained design aspects of structural life spans of the projects, where the sustainability factors are taken into consideration, that leads to. reduction on construction costs. Earlier, Mr K Unni Krishnan, Chairman, Palghat Local Centre delivered the welcome address. Mr A Ramesh, Honorary Secretary, Palghat Local Centre proposed the vote of thanks.



### Roorkee

Roorkee Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020 at Roorkee. Chief Guest during the function & Keynote Speaker, Dr S K Ghosh, Professor & Head, Department of Civil Engineering, IIT Roorkee delivered a lecture on Sustainability and Geospatial Tools. In his lecture, Prof Ghosh briefed about the importance of GIS and data acquisition for sustainable development. Ms Nupur Verma, MNA, Nagar Nigam, Roorkee graced the function as Guest of Honour and addressed the audience. Earlier, Prof (Dr) Achal Kumar Mittal, Chairman, Roorkee Local Centre welcomed the audience. Dr Mohd Ashraf Iqbal, Honorary Secretary, Roorkee Local Centre proposed the vote of thanks.



Roorkee Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020 at Roorkee. Chief Guest during the function & Keynote Speaker, Dr S K Ghosh, Professor & Head, Department of Civil Engineering, IIT Roorkee delivered a lecture on Sustainability and Geospatial Tools. In his lecture, Prof Ghosh briefed about the importance of GIS and data acquisition for sustainable development. Ms Nupur Verma, MNA, Nagar Nigam, Roorkee graced the function as Guest of Honour and addressed the audience. Earlier, Prof (Dr) Achal Kumar Mittal, Chairman, Roorkee Local Centre welcomed the audience. Dr Mohd Ashraf Iqbal, Honorary Secretary, Roorkee Local Centre proposed the vote of thanks.

### Saurashtra

The Institution of Engineers (India), Saurashtra Local Centre, in association with Ma rwadi University, Rajkot observed World Engineering Day for Sustainable Development on 4 March, 2020 at Rajkot. Dr Y P Kosta, Provost, Marwadi University, Rajkot graced the occasion as Chief Guest. Dr Krishna Vedula, Founder and Executive Director of the Indo-Universal Collaboration for Engineering Education and Professor of Chemical Engineering and Dean Emeritus, Francis College of Engineering, University of Massachusetts Lowell delivered Lecture during the occasion through video conference. Earlier, Mr Ranchhod Kanjibhai Babaria, Honorary Secretary, Saurashtra Local Centre welcomed the audience. Prof (Dr) Sarang Pande, Principal, P G Studies and Research, Marwadi University, Rajkot proposed the vote of thanks.

### South Gujarat

The Institution of Engineers (India), South Gujarat Local Centre observed World Engineering Day for Sustainable Development on 4 March, 2020 at Surat. The programme was attended by the Corporate Members of SGLC, IEI. Mr Kirti Hiralal Shethna, Chairman, South Gujarat Local Centre and Council Member, IEI during his address, explained the significance of observation of World Engineering Day. Mr Dipak Gomanbhai Patel, Honorary Secretary, South Gujarat Local Centre proposed the vote of thanks to the audience.



The Institution of Engineers (India), South Gujarat Local Centre observed World Engineering Day for Sustainable Development on 4 March, 2020 at Surat. The programme was attended by the Corporate Members of SGLC, IEI. Mr Kirti Hiralal Shethna, Chairman, South Gujarat Local Centre and Council Member, IEI during his address, explained the significance of observation of World Engineering Day. Mr Dipak Gomanbhai Patel, Honorary Secretary, South Gujarat Local Centre proposed the vote of thanks to the audience.

### Udaipur

Udaipur Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March, 2020 at Udaipur. Mr B L Khamesra,

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Former Managing Director, Jodhpur Vidhyut Vitaran Nigam Limited, Udaipur, the Guest of Honour and Keynote speaker during the occasion emphasized on sustainable development of infrastructure in India and enhanced application of renewable energy sources. Dr P K Singh, Head of the Department of Banking & Business Economics, Mohan Lal Sukhadia University, Udaipur was present during the occasion and addressed the audience. Earlier, Mr Yawanti Kumar Bolia, Chairman, Udaipur Local Centre delivered the welcome address. Mr Chandra Prakash Jain, Honorary Secretary, Udaipur Local Centre proposed the vote of thanks.

### Upper Assam

The Institution of Engineers (India), Upper Assam Local Centre observed World Engineering Day for Sustainable Development on 4 March, 2020

at Namrup, Dibrugarh. Mr Pulak Jyoti Sarma, Former Executive Director, Oil India Limited graced the function as Chief Guest and Mr H K Changmai, CGM & Head of Plant, Assam Gas Based Power Plant (AGBP), North Eastern Electric Power Corporation Limited (NEEPCO), the Guest of Honour. Earlier, Mr Asit Kumar Baruah, Chairman, Upper Assam Local Centre welcomed the audience. Mr Digant Goswami, Honorary Secretary, Upper Assam Local Centre proposed the vote of thanks.



## Advances in Mining

Contd. from page 3

Sub theme – Blasting: Analysis of the Rock Properties influencing the Blast induced Ground Vibration; Assessment of Controlled Blast Design Parameters in a Stone Quarry to Safeguard the Structures; Blast Measurement and Analysis in Surface Mines; Recent Advancements in Underground Blasting for Excavation of Metalliferous Ore Deposits; Determination of Powder Factor by Comparing Explosive Energy with Rock Energy-a Comparison; Overbreak Control in Development Face Blasting of Underground Metal Mines.

Sub theme – Reliability: Investigation of Response of Blasting Pile Density over Equipment Productivity; Mathematical Modeling for Reliability Analysis of Shovel-Dumper System in Surface Mine using RBD; Prediction of Dragline Failures using Gradient boosting Algorithm; Replacement Model for the Dragline System; Characteristics of Whole-body Vibration Exposure of Dumper Operators in a Coal Mine; Design Considerations of an IOT aided Data Acquisition System for Mining Industry Applications.

Sub theme – Application of IT in Mines: Virtual Reality (VR) Simulation for Improving Mine Safety and Productivity – Prospects and Applications in Indian Context; Application of IT and Automation in Mine Monitoring; Terrain Analysis of Mobile Robotic System for Applications in Underground Coal Mines; Dynamic Programming based Computerized Model for the

Determination of Cut-off Grade in Opencast metalliferous Deposits; Mine-environment Monitoring Devices (MEMD) with the Capability of Internet-based Onsite-calibration (IBOC); Application of Dry Fog System for Controlling Dust Emission from Mines and Mineral Processing Plants etc.

Sub theme – Mine Productivity and Safety: Application of Different Optimization Techniques in Mine Planning for better Utilization of Resources; CSR in Coal Mining Sector; 3D Reconstruction-based Surveying of Large-scale Indoor Environments using Digital Images; Evaluation of Intrinsic Safe Electrical equipment for its Application in Potentially Explosive Atmosphere; Lithological Simulation using Non-Gaussian Copula-based Model for Copper Deposit; Pit Top Solar Power Plant in Mines – To Enhance Productivity and Profitability.

During Valedictory Function, Mr Aboobacker Siddique P, Secretary cum-Commissioner, Department of Mines & Geology, Government of Jharkhand graced the occasion as the Chief Guest and Mr Prem Sagar Mishra, Chairman Cum-Managing Director, Eastern Coalfields Limited was the Guest of Honour. Earlier, Dr Pradeep Kumar Singh, Director, CSIR-CIMFR, Dhanbad and Chairman, Dhanbad Local Centre welcomed the august audience. Dr Satyendra Kumar Singh, Honorary Secretary, Dhanbad Local Centre proposed the vote of thanks.

## One Day Seminars/Workshops Conducted by Various Centres of IEI

Contd. from page 7

on 31 January, 2020 under the aegis of Environmental Engineering Division Board, IEI at Salem. The objective of the Seminar is to emphasize the significance of applications of Drone Technology in different facets of construction engineering. Eminent resource persons explained general and advanced feature of application of drones in construction through tracking and communicating progress, track assets and materials management, better visibility, monitoring and control, enhance safety measures, provide valuable information for design modification etc. Mr S Rajkumar, Salem Land Survey Institute, delivered Lecture on 'Introduction to Drone Surveying'. Mr S Loganathan,



HoD, Civil Engineering Department, Thiagarajar Polytechnic College, Salem and Honorary Secretary, Salem Local Centre delivered Lecture on features of Interior and Exterior Drone Surveying, applications of Drones in smart cities, agriculture, structures etc. Mr B Prabu, Assitant Professor, Sona college of Technology, Salem delivered Lecture on Pre Processing in Drone Surveying. Dr M N A Gulshan Taj, Associate Professor, Sona College of Technology, Salem explained about Post Processing in Drone Surveying. Dr V Karthikeyan, Principal, Thiagarajar Polytechnic College, Salem in his address explained the key areas of Drone technology in construction sector and construction projects. Earlier, Mr D Arul Selvan, Chairman, Salem Local Centre, IEI, welcomed the audience and mentioned that surveying with Drone offers enormous potential to GIS professionals. He further explained the application of Drone in topographic survey with high accuracy and less time. Mr S Loganathan, Honorary Secretary, Salem Local Centre proposed the vote of thanks.



## 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](mailto:director_finance@ieindia.org)

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

I look forward to your encouraging response.

14<sup>th</sup> 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](mailto:datamemb@ieindia.org) by 10 June 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](http://www.ieindia.org) under Certification for details. For further clarification you may call at: 033-40106304 or Email at [certification@ieindia.org](mailto:certification@ieindia.org)

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