



# I.E.I NEWS

March 2022

**Microfluidics for Molecular Diagnostics towards Technology Development on Affordable Healthcare**

4

**Global Transformation in Power Sector**

5

**3D Printing Technology: An Innovative Technique In Civil Engineering**

6

**News-in Brief**

7

**Proceedings of Hundred-and-second Annual General Meeting of The Institution of Engineers (India)**

12

A CENTURY OF SERVICE TO THE NATION

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## WFEO-CIC International Webinar

### Green Technologies: Precursor for Transition to Smart Sustainable Cities

An International Webinar on the topic **Green Technologies: Precursor for transition to Smart Sustainable Cities** was organized under the aegis of WFEO-CIC on 22 February 2022, between 1500-1700 hrs IST/1730-1930 hrs MYT. The International webinar was hosted by The Institution of Engineers (India) in association with The Institution of Engineers, Malaysia (IEM).



Shri V Suresh

The panel comprised of the following experts from India and Malaysia:

1. Shri V Suresh, President of Forum for Critical Utility Services [FOCUS], Former Chairman, IGBC, Former CMD, HUDCO, Vice Chairman, National Building Code of India, Chairman, Housing and Planning Committee and Member, Smart Cities Committee of BIS
2. Prof (Dr) P K Sikdar, President, Intercontinental Consultants & Technocrats Private Limited, New Delhi, India
3. Ir. Kesavan Jaganathan, Director of Freelance Consultancy, Malaysia.

The program was also graced by Dr H O Thakare, President, IEI, Mr S S Rathore, Chairman, WFEO-CIC & Past President, IEI, Mr Navinchandra B Vasoya, Member, Executive Council, WFEO & Past President, IEI, Mr Ashok Kumar Basa, Advisor to President, WFEO & Past President, IEI and Maj Gen MJS Syali, VSM (Retd), Secretary & Director General, IEI.

Contd. on page 2

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

In recent years, business management has been increasingly influenced by the key concept of sustainability. To achieve sustainable development, more attention is being paid to the reduction and recycling of waste and optimum usage of resources, which is the key concept of Circular Economy. It refers to the systemic approach towards economic development designed to benefit businesses, society, and the environment. In contrast to the linear economy model of 'take-make-waste', the circular economy is regenerative by design and aims to gradually decouple growth from the consumption of finite resources. The objective of a circular economy is to extract the advantages of materials, energy, and waste of an industry. When the global pandemic resulted in disruption of the flow and pricing of raw materials and finished products, circular economy helped to build supply chain resilience by removal of waste, complexity, and toxicity from products for more effective end-of-life resource management, keeping raw materials in use for as long as possible to extract the maximum value from them and returning the materials to the environment without any negative impact. A circular economy stimulates significant growth for the supply chain, which results in environmental consciousness and energy conservation.



Supply chain management involves the active streamlining of a business's supply-side activities to maximize customer value and competitive advantage in the marketplace. When supply chains are responsible for four-fifth of greenhouse gas emissions, their role in the transition from linear to a circular economy, and thus in the successful implementation of circular systems, are highly significant, which require the attention of all stakeholders including industry, academia, policy makers, and practitioners for successful implementation. Further, despite the perceived efficiency of manufacturing and freight distribution, the consumption of goods and products is associated with a high level of waste generation. A circular economy provides the necessary feedback that tries to minimize the resource input and the generation of waste, which provides the concept of a circular supply chain. A circular supply chain facilitates a circular production system with better resource planning and utilization, defined manpower planning, and precise

Contd. on page 6

## IEI Technical Webinar under the aegis of Interdisciplinary Coordination Committee

### Sustainable Life

**Madurai Local Centre**, IEI organized Technical Webinar on the theme **Sustainable Life** on 23 January 2022 under the aegis of Interdisciplinary Coordination Committee, IEI. During the webinar, Mr V V Vikram, Deputy General Manager, Schneider Electric India Private Limited, Coimbatore; Dr R P Dhanya, Assistant Professor and Head, Department of Microbiology, Noorul Islam College of Arts and Science, Kumaracoil and Dr A Helen Sonia, HoD and Vice Principal, Department of Pharmaceutics, S A Raja Pharmacy College, Tirunelveli addressed the virtual audience as Panelists and shared their thoughts and views. Thiru L Muthu, Former Deputy Director, ISRO, Valiamala moderated the event.

At the beginning, Dr N Sivasubramanian, Chairman, Madurai Local Centre, IEI welcomed the Panelists, moderator, dignitaries, Corporate Members and other stakeholders who were present in the session. In his address, Dr Sivasubramanian briefed the audience about sustainability of human life, Sustainability Index, how to achieve a sustainable life and so on. Moderator of the session, Thiru L Muthu, introduced the panelists and explained the importance of the theme of the webinar.

Mr V V Vikram started his deliberation with a brief introduction on ecology, climate, water, energy and livelihood sustainability. In his lecture, Mr Vikram focused on water sustainability and deliberated on water stress and water scarcity. He further stressed on conservation of water bodies and watersheds, effective water distribution and

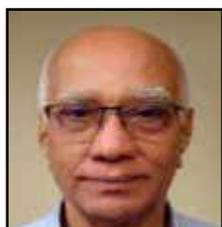


Mr V V Vikram

Contd. on page 3

## Green Technologies: Precursor for Transition to Smart Sustainable Cities

Contd. from page 1



Prof (Dr) P K Sikdar

After a brief introduction and welcome to the panel by Chair, WFEO-CIC, Ir. Kesavan Jaganathan, who represented the Working Group for Sustainable Cities / Smart Cities from the Institution of Engineers Malaysia (IEM), commenced the proceedings. He mentioned about formulating appropriate policies for smart cities in sync with the national/regional policies and emphasized on capacity building with existing pool of resources/engineers. He also stressed upon the need to involve professional and engineering

institutions in policy making to identify the achievable targets.

He mentioned that the transformation to smart and sustainable cities will require critical assessment of social, environmental and economic factors. According to Ir Jaganathan, smart city approach aims at resolving urbanization issues and improves the quality of life of societies in the city. It adds intelligence to the urban world and is used to achieve a higher quality of life with engineering, information & communication technology at its core. He touched upon the global and local agendas involved in setting up of smart cities in Malaysia, future of ASEAN smart cities as well as the smart city vision of India.



Ir. Kesavan Jaganathan

While explaining about the influencing factors for smart and sustainable cities at planning stage Ir Jaganathan mentioned that major part of the sustainability is contributed by Urban Development and Master Planning towards early stages of city planning where most of concept level design can be made. According to him, it is equally important to pay attention to the detailing involved in Infrastructure System Design. He underlined the ubiquitous role of engineers in almost all the facets of a smart

city involving smart economy, smart government, smart people, smart environment, smart living, smart mobility and smart digital infrastructure. He briefly dwelt upon the Malaysia smart city industry ecosystem and proposed a generic approach towards establishing a smart city in the context of ASEAN countries, smart city financing, available ISO, IEC and EEE smart city standards and the future initiatives. In the backdrop of this pandemic, Ir Jaganathan also mentioned about the critical issues like data security & sharing, which are imperative for any smart and sustainable city and also the strategies to deal with them in the new normal.

Prof (Dr) P K Sikdar spoke next to Ir Jaganathan and he highlighted that any green, sustainable & smart city should aim to make itself "smarter," more sustainable, efficient, equitable, and liveable as well as inclusive, safe, resilient and sustainable as per the 11th UN Sustainable Development Goal. He mentioned that the Smart City Mission has gained momentum in India and presently 08 states have 50 smart cities. According to Prof Sikdar, a 'Smart City' is built on the tenets of Smart Infrastructure, Smart Governance and Smart Management of Services. He shared an April 2010 McKinsey Global Institute report which projected that by 2030 huge amount of urban infrastructure capacity building will be required to support burgeoning urban population. While speaking about the Smart City Mission, the flagship programme launched by Government of India, Prof Sikdar mentioned that the context of smart cities evolved as a notion to revive the cities on the ground of sustainability and competitiveness by adopting state of art technology for creating a sustainable and an inclusive development through the provision of core infrastructure and a decent quality of life for 100 selected cities across the country. He mentioned that the mission focuses on providing sustainable, equitable & inclusive smart solutions to core infrastructural requirements. He elaborated that Smart Cities Mission recommends 4 types of solutions, namely, City improvement (Retrofitting); City renewal (Redevelopment); City extension (Greenfield development) and Pan-city initiative covering larger parts of the city. He also mentioned that the performance of smart

cities is measured in terms of six characteristics: environment, economy, mobility, people, living and governance. He also opined that successful implementation of smart cities in developing world (including India) are generally rare; because developing nations lack their own policy institutions, they are generally attracted to adopt policy frameworks established and tested in more developed countries, which are not always optimal for adoption under their own circumstances. Development strategies of cities should be towards smart policies aimed at sustainable mobility, energy up-gradation of the building stock, increase of energy production from renewable sources, improvement of waste management and implementation of ICT infrastructures, added Prof Sikdar. According to him, the ingredients of Sustainable Smart City shall include the following:

- economic competitiveness (smart economy), innovation, enterprise, economic image and brands spirit, productivity, job market flexibility, international integration, transformation capacity;
- training and social interaction of citizens (smart people), qualification level, long-term training, social and ethnic plurality, flexibility, creativity, cosmopolitanism and mental opening, participation to public life;
- functioning of administration and services (smart governance), participation to decisional processes, public and social services, transparent government activity, politics strategies and perspectives;
- availability of information and communication technologies and modern and sustainable transportation systems (smart mobility), local accessibility, international accessibility, availability of IT infrastructures, sustainable, innovative and safe transportation systems;
- high environmental quality (smart environment), attractiveness of natural conditions, pollution, environment protection, sustainable management of resources;
- life, culture, health and safety quality (smart living), social structures, health conditions, individual security, dwellings quality, educational structures, touristic attractiveness, social cohesion.

Prof (Dr) P K Sikdar concluded with the technology innovations required for charting the path of transition to green and smart & sustainable cities and also shared the status of the smart city projects undertaken so far.

Prof Sikdar was followed by Shri V Suresh, who enunciated that the cities have been identified as the growth engines contributing significantly to social and economic development at national and local levels, promote economic growth (70% of GDP), offer significant economies of scale in the provision of jobs, housing and services and are important centres of productivity and social advancement. He also mentioned that cities will expand with mass migration of rural population in search of livelihoods and better living conditions and hence building and construction sector is faced with the imminent challenge of restricting GHG emissions to environment which can be mitigated to a certain extent by constructing green building and adopting green construction practices. Thus, according to Mr Suresh, green building is also imperative for successful implementation of smart city projects. He mentioned that the thrust on Smart City needs to be addressed along with imperatives for promoting resilient construction built around the philosophy of creating and maintaining Safe Built Environment for people and property as enshrined in the provisions of NBC 2016. He pointed out that while the present regulatory framework deal with Built Environment for the three-dimensional spaces and connected spatial development there is a need towards enabling framework in Part 11 of NBC of India 2016 with an approach to sustainability. He also dwelt upon Building Information Modeling (BIM) as an enabler for next generation of sustainable construction. Mr Suresh also advocated that the IGBC Green Cities concept facilitates Indian cities to be converted to 'Green Cities' to meet national & international benchmarks for sustainable cities & communities and to address national priorities. He also mentioned that the IGBC Green Cities Rating is aligned with Government of India's Smart Cities Mission Objectives. Mr Suresh spoke on the key features of IGBC

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## Mr Ashok Kumar Basa, Past President, IEI Elected as Executive Vice President, WFEO

Mr Ashok Kumar Basa, Past President (2014) of IEI has been elected as Executive Vice President, World Federation of Engineering Organizations (WFEO) for four years (2021-2025) on getting the highest vote in a triangular contest. Mr Basa happens to occupy this coveted position after Er. Late B J Vasoya, Past President, IEI who was the first to be elected from IEI as Executive Vice President, WFEO for the period 2005-2009.

Having more than 100 countries as its members, WFEO, which was created by UNESCO in 1968 happens to be the largest professional body in the world. IEI is one of the founding members of WFEO.

Mr Basa was Member of the Executive Council for the period 2015-2019. Besides he is also the Vice Chair of the Disaster Management



Committee of WFEO. He had also served in many other important committees of WFEO such as, Governance Committee, Nominations Committee, WFEO-UN Relations Committee, Committee on Information and Communication etc. He was involved in drafting the Rules of Procedure of WFEO underpinning his active his involvement with the Federation.

The Institution of Engineers (India) is proud to have its Past President elected to a position of responsibility in the WFEO. His election will give greater visibility to IEI in particular and our country in general.

## Sustainable Life

Contd. from page 1

storage without wastage, and water security for all. He also explained rainwater harvesting, ground water recharging, energy sustainability, and use of renewable energy resources.

Dr R P Dhanya delivered lecture on the topic 'Livelihood Sustainability'.



Dr R P Dhanya

In her lecture, Dr Dhanya explained livelihood as the multidimensional concept, which can be contextualized to almost all aspects of growth and development and briefed on predisposed livelihood, situational livelihood, inherited livelihood etc. She explained the effect of human capital, social capital, natural capital, physical capital and financial capital to constitute sustainable livelihood framework. The speaker strongly advocated creating a sustainable society with improved quality of human life,

minimising depletion of nonrenewable resources etc. In her concluding remarks, she mentioned the success-factors of sustainable livelihood, which include designing sustainable technologies, sustainable economies, and sustainable institution of governance etc.

Dr Helen Sonia delivered her lecture on ecological sustainability and sustainable



Dr Helen Sonia

living. She focused on different components of ecosphere, ecology and focused on the root causes that decrease the ecological sustainability, namely massive destruction of plants and habitats, increasing water pollution, increased volume of wastes, uncontrolled use of man-made fertilizers and pesticides etc. She further focused on the major environmental problems, namely climate change, soil erosion, poor air quality, and non-potable water. The speaker discussed at a length about different components of weather and climate, effect of latitude and altitude on climate change and global ecological balance, human influence on climate system etc. She concluded her lecture with the emphasis on effect of greenhouse gas emission on biological and physical systems, climate sustainability etc.



Thiru L Muthu

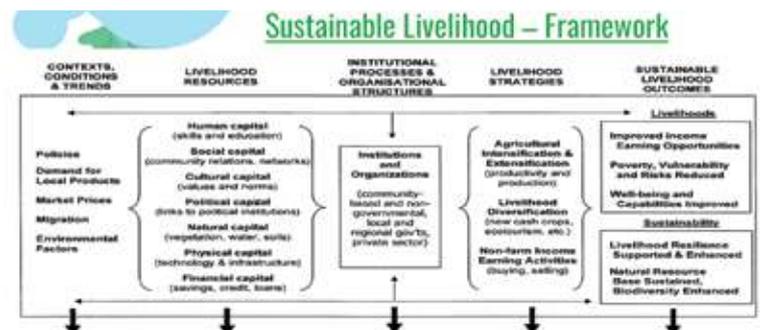
The moderator of the event, Thiru L Muthu summed up the deliberations. Prof (Dr) P Udaya Kumar, Honorary Secretary, Madurai Local Centre proposed

the vote of thanks.

Sustainable livelihood approach makes the connection between people and the overall enabling environment that influences the outcomes of livelihood strategies.

Sustainable livelihood does not mean living without luxuries but rather being aware of one's resource consumption and reducing unnecessary waste.

The ways of living that advance good health and wellbeing while limiting the destruction of the natural environment and wildlife.



## Green Technologies: Precursor for Transition to Smart Sustainable Cities

Contd. from page 2

rated Green Townships & Cities built on the principles of mixed land use development to facilitate sharing of infrastructure and reduce urban sprawl, investing on waste water treatment & reuse and on-site rain water harvesting, striving for zero solid waste, sustainable mobility, eco-friendly commuting practices, design for maximum green cover and maximum energy efficiency, thrust on usage of renewable energy. He also touched upon the 'Net Zero' movement in India with an aim to reach a regenerative future, focusing on four main areas – Net Zero Energy, Net Zero Water, Net Zero Waste and Net

Zero Carbon. He summed up mentioning that Indian building sector would undergo a paradigm shift in embracing new smart & green concepts which would definitely charter and pave way for India to demonstrate World class Infrastructure.

The event was organized on Zoom and was attended by over 170 delegates from India, Bahrain, Malaysia, Kuwait, Oman, Singapore, South Africa, UAE, UK and Zambia. The webinar was also live telecasted on IEI YouTube channel (URL: <https://youtu.be/SM2YzRs4bg>) and concluded with a vote of thanks from Chair, WFEO-CIC.

## Microfluidics for Molecular Diagnostics towards Technology Development on Affordable Healthcare

West Bengal State Centre, IEI organized Technical Webinar on the theme **Microfluidics for Molecular Diagnostics towards Technology Development on Affordable Healthcare** on 01 February 2022 under the aegis of Chemical Engineering Division Board [CHDB], IEI. The advent of microfluidics and the development of novel microfluidic devices have been able to give a boost to the advancement of molecular diagnostic technologies that may be disseminated outside laboratories with minimally skilled personnel at resource limited settings. The objective of this webinar is to deliberate on the scientific and the techno-commercial perspectives of these emerging diagnostic technologies, both in the present pandemic and post-pandemic era.

Prof (Dr) Suman Chakraborty, Institute Chair Professor & Sir J C Bose National Fellow, Dean, Sponsored Research and Industrial Consultancy Professor, Department of Mechanical Engineering & Ex. Head, School of Medical Science & Technology, IIT Kharagpur; and Prof Nitosh Kumar Brahma, Honorary Secretary, West Bengal State Centre, IEI and Ex Faculty, IIT Kharagpur and Visiting Faculty, IGE, Badu, Kolkata graced the webinar as panelists and addressed the august audience. Mr Anirban Datta, Manager, Mechanical & Piping, Richard Design Services India Private Limited, a fully owned subsidiary of Richard Industrial Group, USA was the moderator of the webinar.



Prof (Dr) Suman Chakraborty

The programme started with welcome address delivered by Mr Sandip Kumar Deb, Vice President, IEI and Chairman, West Bengal State Centre, IEI. Moderator of the session, Mr Anirban Datta provided a brief introduction about the panelists.

Prof Suman Chakraborty delivered his lecture on the topic 'Microfluidics and Recent Trends'. He narrated the recurrence of epidemics and pandemics from emerging pathogens like Influenza, Ebola, Zika, SARS, MERS and the most recent SARS-CoV-2, that has continuously exposed global unpreparedness towards protecting human health, social and economic livelihoods. Considering the possibilities of asymptomatic infected individuals and similarities in symptoms associated with infections caused by various pathogens, for example influenza virus, adenovirus, respiratory syncytial virus infection and novel corona virus and their dynamically mutating strains including the most recent upsurge of the omicron variant, common clinical-observation based screening strategies are not adequate to prevent the disease spread; Rather, systematic, aggressive yet accurate testing of individuals on

a community level, contact tracing and rapid isolation of infected individuals, when synchronized in tandem, may facilitate an effective management of the epidemic/ pandemic threats, typically in the purview of dynamically mutating pathogenic strains, he mentioned. He mentioned that different variants of molecular diagnostic tests are central to detect pathogenic infections. Point-of-care (POC) immunoassays, alternatively known as rapid antigen or antibody tests, have turned out to be extremely attractive for deployment in resource limited settings; However, these techniques suffer from limited accuracy owing to rapid genetic evolution of the pathogenic strains and limited abundance of the antigens or antibodies in the tested body fluid sample, specifically at the early stage of infection, he opined. In sharp contrast, the nucleic acid amplification-based tests are intrinsically adapted to capture the most fundamental genomic signature of the infection, and provide a highly sensitive, accurate and reliable approach for diagnosis, he added.

Prof Nitosh Kumar Brahma delivered his presentation on the topic 'BNT and



Prof Nitosh Kumar Brahma

Microfluidics: The Relevance In Advancement of Corona Diagnosis and Vaccination Against Pandemic'. In his lecture, Prof Brahma explained that microfluidic activities are predominate in processing of metals, polymers, Artificial Internal Organ, regenerative medicine and biological systems. He discussed the functional applications of RT-PCR (Real Time Polymerase Chain Reaction) and Bio Nano Tube (BNT). He mentioned that if BNTs are immobilized with cancer drug, it pursue bidirectional AAIR to prevent benign to malignant growths of tumour. Slow movements of DNA during reverse transcriptase, involved in polymerase chain reaction required micro fluidic transport of reverse transcriptase enzyme molecules, which convert RNA to DNA, to detect corona/viral m-RNA; the m-RNA moves from spike proteins, to lung alveoli cells by fusion of spike proteins, to transcribe, translate and multiply corona viral particles to spread corona, he mentioned. The microfluidic activities increase in closed laminar air circulation and congested movements of population; BNT on the other hand could be used in bidirectional AA-immune response, he further opined.



Mr Anirban Datta

Mr Anirban Datta, Moderator of the event summed up the deliberations. Prof Nitosh Kumar Brahma, Honorary Secretary, West Bengal State Centre, IEI proposed the vote of thanks.

## One Day Seminar under the aegis of Civil Engineering Division Board

### Practical Aspects of Civil Engineering

Jharkhand State Centre, IEI organized One Day Seminar on the theme **Practical Aspects of Civil Engineering** under the aegis of Civil Engineering Division Board [CVDB], IEI on 28 November, 2021. Er Sanjay Kumar Singh, Chief Engineer ,Building Construction Department, Government of Jharkhand delivered address on the occasion and cited several practical issues of project execution. He shared his experience of constructing bitumen road under the Pradhan Mantri Gram Sadak Yojna. He suggested that the design data which is made available by field engineers must be double verified. He deliberated



on the High Flood Level design data for bridges. He also stressed on detailed know how on tender preparation and processing. Er Swetabh Kumar, Engineer in Chief, Drinking Water and Sanitation Department, Government of Jharkhand deliberated about the important water supply schemes and shared his views with young engineers. Mr Shivanand Roy, Former Engineer in Chief, Water Resources Department, Government of Jharkhand and Member, CVDB, IEI delivered the Keynote lecture.

During the technical session, Mr Sharad Jaipuria, Former Head of Civil and Architectural Division, MECON Limited, presented his paper on the topic 'Integrated Construction Approach for Capacity Enhancement using Large Block Method'. He further discussed on Up-gradation & Capacity Enhancement of Blast Furnace at JSW Dolvi, Maharashtra. Er Shardendu Narayan, Retired Engineer in Chief, Drinking Water and Sanitization Department, Government of Jharkhand and Er Nand Kishore Roy, Retired Engineer in Chief, Water Resources Department, Government of Jharkhand delivered lecture during the technical session. Earlier, Mohammad Iqbal Alam, Chairman, Jharkhand State Centre, IEI delivered the welcome address.

## Global Transformation in Power Sector

**Madurai Local Centre**, IEI, organized Technical Webinar on the theme **Global Transformation in Power Sector** on 6 September 2021 under the aegis of Electrical Engineering Division Board [ELDB], IEI. Mr A Senthil Ram, General Manager, Tata Consulting Engineers Limited, Bangalore and Dr S Arul Daniel, Professor(HAG), Department of Electrical and Electronics Engineering, NIT, Tiruchirappalli graced the webinar as panelists and shared their thoughts with the august audience. The webinar session was moderated by Mr P Rajamani, the then Chairman, Electrical Engineering Division Board, IEI. Mr K Vijayakumar, Former Chairman, Madurai Local Centre, in his opening remarks welcomed the panelists, moderator of the session, Corporate Members and attendees.



Mr A Senthil Ram

Mr A Senthil Ram, during his deliberation, focused on decarbonization, decentralization, digitalization and achievement of energy efficiency goals. He stated that transformation towards decarbonization has picked up very fast in power sector and mentioned that power systems are becoming increasingly integrated with other key sectors and critical infrastructure. The growth of distributed generation and its threat towards power utility are managed by advanced digital technological change, which include real-time

communication, smart metering, advanced control system, cloud computing etc, he added. He explained the challenges in renewable power generation including control of generation capacity, storage, frequency stability etc. To meet the emerging challenges, the speaker strongly advocated for advanced forecasting of generation and demand, reducing the need for more expensive regulating reserves, proper reserve management to address the variability of power to meet demand. He also explained the significance of technology mix in generation and storage and recommended for combining renewable energy with base-load plant and energy storage into a single "hybrid" power plant to increase the efficiency, flexibility, and reliability of the system. He discussed on the digital advancement in Power Sector and discussed the limitations of traditional SCADA, distributed control systems, and PLC, which were designed as closed systems with limited control interfaces. He further stressed on real-time information for instantaneous balance of supply and demand to increase efficiency, productivity and reliability of the grid. He also stated that IoT devices and cloud-based data management platforms are rapidly increasing to develop new analytics and facilitate IT/

OT convergence to enable enterprise data management. The speaker in his concluding remarks, mentioned that Power Sector needs major reforms in terms of technical specifications, operational practices and market design including the Government regulations to be more efficient and resilient.

Dr S Arul Daniel in his deliberation, explained the concept of Virtual Power Plant (VPP) to meet the challenges of upcoming energy markets. He discussed at a length Power Grid System, Roof Top Solar System and Smart Grid. The forecasting of future energy situation regarding demand, energy prices and renewable generation has been assessed, reaching the conclusion that artificial intelligence methods are best suited for the stated purpose, Dr Daniel opined. He stated that the optimal operation point of VPP is determined by considering current and future energy prices from the market,

renewable energy generation, manageable and non-manageable demands and costs and operational constraints of energy equipment. He discussed on the structure and requirement of energy management system (EMS), the communication technologies protocol of the plant including its advantages and drawbacks and the important factors for the selection of the sensing technologies. Virtual power plants (VPPs) of secondary distribution network have come into existence due to the installation of generators in the premises of domestic consumers and the recent legislative emphasis on net-zero energy operation, he added.

Moderator of the webinar, Mr P Rajamani summed up the deliberations and mentioned that the latest development in non-conventional energies will drive the power sector away from the conventional sources and save the world from CO<sub>2</sub> emission; the methods of utilization of the IoT and convergence of data, historical customer data according to seasons, days of the week and specified time-intervals of the day are going to play important role in determining grid efficiency, stability, sustainability and cost reduction he explained. A brief interactive session was organized at the end of the

session. Mr R Narayanasamy, Honorary Secretary, Madurai Local Centre, IEI proposed the vote of thanks at the end of the event.



Dr S Arul Daniel



Mr P Rajamani

## Industry 5.0 and Green IoT with Relevant Future Technologies

The Institution of Engineers (India) organized Technical Webinar on **Industry 5.0 and Green IoT with Relevant Future Technologies** under the aegis of Computer Engineering Division Board [CPDB], IEI on 14 September 2021.

The webinar was arranged taking into consideration the latest industry trends and sustainable environment so that the participants all across the nation get acquainted with the same. The veteran resource persons having well expertise in the mentioned fields were the speakers of the webinar who very nicely and lucidly explained the topic with real-life examples. Prof (Dr) Santanu Kumar Sen, Principal, Guru Nanak Institute of Technology, West Bengal and Dr Mahamuda Sultana, Associate Professor, Department

of Computer Science & Engineering, Guru Nanak Institute of Technology graced the function as Panelists and shared their thoughts with the audience. The programme was moderated by Prof (Dr) Saikat Maity, Professor and Head, Department of Computer Science and Engineering, School of Engineering and Technology, JIS University. The programme started with the opening remarks delivered by Mr Sudeep Chakraverty, Assistant Director



Prof (Dr) Santanu Kumar Sen



Dr Mahamuda Sultana

(Technical), The Institution of Engineers (India) with a brief introduction of the Moderator. The welcome address was delivered by Mr B S Patel, the then Chairman, Computer Engineering Division Board, IEI. Prof (Dr) Swapan Bhaumik, the then Chairman CATE, IEI was also present in the programme and addressed the august gathering.

To start with the technical session, the Moderator of the programme, Prof (Dr) Saikat Maity introduced the panelists of the webinar session. Prof (Dr) Santanu Sen, in his deliberation focused on Industry 5.0 and outlined a brief overview on the importance of Green IoT in the current world, particularly in India. Along with Industry 5.0, he also touched upon Education 4.0 and Society 5.0 and showed the linkage among the three in recent days. He emphasized on gradual transition from Industry 4.0 to 5.0 particularly in the ongoing pandemic



Prof (Dr) Saikat Maity

Contd. on page 11

## 3D Printing Technology: An Innovative Technique In Civil Engineering

Faridabad Local Centre, IEI organized Technical Webinar on the theme **3D Printing Technology: An Innovative Technique In Civil Engineering** on 12 February 2022 under the aegis of Civil Engineering Division Board [CVDB], IEI. Dr C Jayaguru, Professor, Civil Engineering Department & Registrar - Academic, PSNA College of Engineering & Technology, Dindigul, Tamil Nadu and Mr Tushar Joshi, Sales and Marketing Executive, Tvasta Manufacturing Solutions Private Limited graced the event as Panelists and addressed the audience. Er Inderdeep Singh Oberoi, Director, A D Global Synergies Private Limited was the Moderator of the event. At the beginning, Er Sandeep Handa, Chairman, Faridabad Local Centre, IEI welcomed the Panelists, Moderator, Chairman, CATE, Chairman, CVDB and the audience present. In his opening address, Mr Handa stated that the main objective of the Webinar is to enlighten all about 3D printing technology, which is an affordable way to create housing for the impoverished to meet the need of adequate shelter. He added that 3D printing presents promising opportunities for the construction industry to become both greener and more cost-effective, often by considerable margins. Mr M Nagaraj, Chairman, Civil Engineering Division Board, IEI in his address stated that with restrictions in place, technical webinars are conducted by IEI on topical issues have provided a virtual knowledge sharing platform for the members and the professionals attached to the trade. Dr G Ranganath, Chairman, CATE, IEI in his address stated that IEI conducts various technical webinars with comprehensive coverage on different engineering topics which have witnessed enthusiastic participation from a wide range of professionals.

Dr C Jayaguru delivered his presentation on the topic '3D Printing in Construction – Building the Home of the Future'. Dr Jayaguru started his presentation with a brief overview on advanced construction technology and application of 3D Printing Technology in construction industry. He explained the functional application of 3D Printing and Additive Manufacturing principle at a length and mentioned that in additive process, an object is created by laying down successive layers of material until the entire object is created. He explained Sintering is the process of fusing particles together into one solid mass by using a combination of pressure and heat without melting the materials. Common particles that are sintered together include metal, ceramic, plastic, and other various materials. In his



Dr C Jayaguru

deliberation, Dr Jayaguru elaborated that 3D printing technology refers to the prototyping process in which a three dimensional object is created from a 3D Computer Aided Design (CAD) data. He explained that 3D Printing technology rapidly became popular not only because of the myriad of things that it can be used to make but also the simplicity of the process as compared to traditional manufacturing. 3D Concrete printing is a construction method that has the capability of fabricating a predesigned building element in 2D layers on top of each other, the repetition of which completes a 3D model, he added.

Er Tushar Joshi deliberated on the topic '3D Printing in Construction' and explained the critical aspects of 3D Printing, namely machine, which is the 3D Printer; the compatible material; application software and printing strategy with appropriate printing plan. He further mentioned that the IIT Chennai based start up Tvasta, is working towards automating the construction process by 3D printing and constructed India's first 3D printed 500 square feet house at IIT Madras, by means of Offsite 3D printing technology. Er Joshi also mentioned that 3D Printing technology results reduction in the labor dependency, material wastage and enhance design customization and sustainability. He explained the advantages of Concrete 3D Printing, also include; faster construction of foundation and walls, and increased affordability due to less wastage. He also discussed integrated electrical and plumbing systems, architectural and structural elements, 3D printed façade elements etc. Moderator of the session, Er Inderdeep Singh Oberoi summed up the deliberation at the end of the session mentioning that



Er Tushar Joshi



Er Inderdeep Singh Oberoi

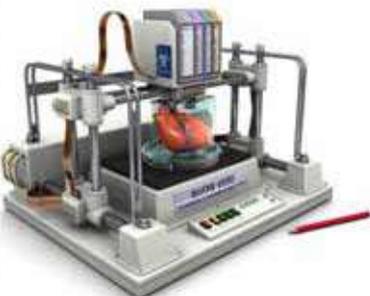
future manufacturing will be a blend of traditional methods and 3D printing. He explained 3D Printing as a resource-saving manufacturing alternative, which enables more efficient and novel designs that contribute to lower manufacturing requirements. He stated the process as greener, cleaner, and more sustainable than traditional manufacturing techniques. A brief interactive session was held at the end of the session. Mr Kuldip Raj Gupta, Honorary Secretary, Faridabad Local Centre, IEI proposed the vote of thanks.

### Production of Concrete by 3D Printer



### 3D Printing

- 3D printing technology is mainly a prototyping process in which a three-dimensional object is created from a 3D Computer Aided Design (CAD) data.
- 3D printing is also called Additive Manufacturing due to the procedure in which the three-dimensional objects are fabricated, which is often done in an additive manner.



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

Contd. from page 1

waste management, which results in an achievable and environment-friendly sustainable engineering solution.

IEI observed World Engineering Day for Sustainable Development on 4 March 2022 on the theme 'Build Back Wiser Engineering the Future', which is principally focused on sustainable engineering solutions to address

the societal, technological, and economic challenges after the long-lasting pandemic outbreak. It is the most significant time to formulate policy to overcome the socio-economic crisis and design the roadmap for generation of more employment, enhancement of quality of working life, and emphasis on sustainable solutions for the manufacturing of products, which can create a better and cleaner environment.

# News-in-Brief

The following are the brief account of Technical Activities organised by various Centres and FORA

## STATE CENTRES

### Gujarat

Organized webinar on 'Climate Change – Issues & Challenges' jointly with Dr S & S S Ghandhy Government Engineering College, Surat and Water Management Forum, IEI on 01 December 2021. Chief Guest, Dr Rajul K Gajjar, Principal, L D College of Engineering, Ahmedabad addressed the gathering and explained the present scenario due to climate change. Keynote Speaker, Mr Shwetal Shah, Technical Advisor, Climate Change Department, Government of Gujarat, Gandhinagar delivered lecture on the topic. Dr Sahita Waikhom, Head, Civil Engineering Department, Dr S & S S Ghandhy Government Engineering College addressed the gathering and briefed on the background of this webinar. Dr Vijay D Dhiman, Principal, Dr S & S S Gandhi Government Engineering College, Surat also addressed the audience.

### Madhya Pradesh

Organised technical webinar on the topic 'Efficient Design of Hydraulic Energy Dissipater' on 18 November 2021. Guest Speaker on the occasion, Dr H L Tiwari, Associate Professor, MANIT Bhopal lucidly elaborated on the topic.

### Mizoram

Observed World Telecommunication & Information Society Day and organized technical webinar on the topic 'Accelerating Digital Transformation in Challenging Times' on 17 May 2021. On the occasion, Mr Aditya Kumar Jha, DGM, BSNL, Ghaziabad elaborately presented the importance of the day. Prof Saibal Chatterjee, Department of Electrical & Electronics Engineering, NIT Mizoram mentioned different forms of digital transformation, cyber security, etc; and Prof L Lolit Kumar Singh, Professor & Head, Department of Electronics and Communication Engineering, Mizoram University deliberated on the importance of telecommunication - past, present and future communication.

Organized technical webinar on the topic 'Reimagine, Recreate, Restore' on 05 June 2021. Dr Ajmal Koya, Associate Professor, Department of BS&HSS (Chemistry), NIT Mizoram emphasized on the urgent need to conserve and protect the environment and create awareness for climate change; Dr David C Vanlalfakawma, Assistant Professor, Department of Forestry, Mizoram University discussed the importance of protecting the environment and various studies in respect of forestry.

Organized technical webinar on the topic 'Biomaterials for Societal Needs' on 05 September 2021. On this occasion Prof Saibal Chatterjee, Department of Electrical & Electronics Engineering, NIT Mizoram explained Biomaterials, its historical background, definition and applications in healthcare engineering; Mr Rakesh Sehgal, Director, NIT Srinagar also shared his thoughts about the biomaterials, its every day uses.

Observed 54<sup>th</sup> Engineers' Day on 15 September 2021 and organized technical webinar on the topic 'Engineers for Skill Development and Employment in Combating COVID'. On this occasion, Prof (Dr) Goutam Sutradhar, Director, NIT Manipur discussed about the employability of the engineers and skill development; Dr S Kanagaraj, Professor, Department of Mechanical Engineering, IIT Guwahati also spoke on the theme.

### Telangana

Organised the Prof (Dr) S Raghavachari Seventh Endowment Lecture on the topic 'History and Present Trends in Public Transportation' on 15 August 2021 and a webinar was organised on the occasion. Dr S Nagabhushana Rao, Chairman, GC-ESCI, IEI & Past Vice President, IEI graced the occasion as Chief Guest and delivered lecture on the topic.

Observed Royal Charter Day on 9 September 2021 through online mode. Dr Seeram Satyanarayana, Immediate Past Chairman, Telangana State Centre, IEI was the Chief Guest of the session and addressed the virtual audience. Mr G L Rao, Past President, IEI; Mr G Sudhakar, Council Member, IEI; Mr B Brahma Reddy, Chairman-Elect, Telangana State Centre, IEI and Dr G Venkata Subbaiah, Honorary Secretary-Elect, Telangana State Centre, IEI attended the programme.

Organised the Er Matur Gopal Rao 24<sup>th</sup> Endowment Lecture on the topic 'Sustaining the Glory of Nagarjuna Sagar Project - a Real Tribute' on 10 September 2021 through online mode. Mr S Narasimha Rao, Chief Engineer (Retd), Inter State & Water Resources, Government of Telangana graced the occasion as Chief Guest and delivered lecture on the topic.

Observed 54<sup>th</sup> Engineers' Day on 15 September 2021 at Hyderabad. On the occasion, a seminar was organized on the theme 'Engineers for Skill Development & Employment in Combating COVID'. Mr Mamidi Sambaiah, Superintending Engineer (Retd), TSGENCO and Dr Sameena Begum, Senior Project Associate, CSIR and Prof G Radhakrishna, Joint Honorary Secretary of the host Centre, IEI presented Papers on the theme of the day. Mr B Brahma Reddy, Chairman-Elect, IEI; Past Presidents, IEI; Past Chairmen and Honorary Secretaries of the host Centre were also present during the programme.

Observed the Er Gurram Koti Reddy 3<sup>rd</sup> Endowment Lecture on the topic 'Construction of New Check Dams Providing New Sluices on Canals to Feed Tanks' on 23 September 2021 at Hyderabad. Mr V Prakash Rao, Chairman, Telangana State Water Resources Development Corporation graced the occasion as Chief Guest. In his lecture, Mr Rao lauded the services rendered by Shri Gurram Koti Reddy. Mr J Vijay Prakash, Engineer-in-Chief (Retd), I & CAD Department delivered lecture on the occasion and narrated the construction and application of check dams.

In association with Hyderabad Clean Air Network organized webinar on the topic 'Climate Change, Coal Power and Air Pollution' on 25 September 2021. Dr K Babu Rao, Chief Scientist, IICT (Retd) in his address expressed his concern about the forthcoming danger for the humanity due to climate change. Mr N Raveendhar, Chief Scientist, R&D, Environment Protection Training & Research Institute, Hyderabad in his lecture explained the regulatory aspects of the coal power pollution and the necessity of using new technologies to reduce pollution.

Celebrated World Rivers day in association with Engineering Staff College of India, IEI; Telangana, Retired Engineers' Association and Indian Peninsular River Basin Council on 26 September 2021 through online mode. Dr Rajendra Singh, Waterman of India graced the occasion as Chief Guest. Mr V Prakash Rao, Chairman, Telangana State Water Resources Development Corporation and Mr G Damodhar Reddy, President, TREA were present during the function and addressed the audience.

Organised the Er Atluri Venkateswara Rao 14<sup>th</sup> Endowment Lecture on 28 September 2021 at Hyderabad. Mr A Sai Prasad Sarma, Guest Faculty for CPTI, ESCI, CIRE, IPMA, Central University of Hyderabad graced the occasion as Chief Guest and delivered the Keynote address on the topic 'Power Quality-Effects of Harmonics – Harmonic Mitigation'. Mr A Chandra Mohan Rao, Advisor, Power & Energy Division, ESCI spoke about 'Flexible Operation of Thermal Plants Integration with Grid & Challenges'.

## Uttar Pradesh

Organised technical webinar on 'Energy Conservation in Industrial Sectors especially in Process Industries' in association with HBTU Alumni Association on 30 May 2021. Chief Guest of the programme, Mr P Rajamani, Council Member and the then Chairman, ELDB, IEI explained the practical approach of energy conservation in industries with examples. The Keynote speaker of the session, Mr Ranjan Kulshrestha, Assistant Director, NPC delivered lecture on energy conservation opportunities in boiler, steam pipe line, insulation, heat recovery of condensate in boiler water system, etc. Mr Girish Kumar, Former Energy Conservation In-charge, UPNEDA discussed about heat load reduction on domestic as well as industrial equipment. On this occasion, Mr V B Singh, Member CVDB and Council Member, IEI; Mr Krishna Kumar, Vice-Chairman, HBTU Alumni Association, Lucknow Chapter and Mr Arul Dos also shared their views.

## LOCAL CENTRES

### Aligarh

Observed Energy Conservation Day and organized technical webinar on the topic 'Conservation of Energy: Oil & Gas' on 14 December 2021. Prof Altamash Siddiqui, Department of Mechanical Engineering, AMU, Aligarh was the Chief Guest and Mr Mansoor Hasan Siddiqui was the Guest of Honour. Convener of the event, Prof Mohammad Kamil, Department of Petroleum Studies, AMU delivered lecture on the topic.

### Angul

Organized webinar on the topic 'Aggrocete – A Carbon Negative Building Materials' on 15 November 2021. Mr J Laxmi Narayan Murty, Managing Director, Green Jams, Visakhapatnam & Ex-Vice President, JSPL, Angul was the speaker on the occasion. Dignitaries present in the function include; Mr M Mishra, D (P&T), NALCO and Mr N K Mondal, GGM (Smelter), NALCO; Mr P K Mohanty GGM (T&C), NALCO and Er Y Pattanayak, VP NBVL.

### Bareilly

Organised lecture meeting on the topic 'Productivity Enhancement: A Case of Metallurgical Industry' on 5 September 2021 via online platform. Dr Anil Kumar Agarwal, Professor, Department of Mechanical Engineering, & Professor Incharge, Training & Placement Cell, Indian Institute of Technology (BHU), Varanasi was present in the event as Speaker, deliberated and discussed on application of Lean Manufacturing in Productivity Enhancement.

### Belagavi

Observed World Habitat Day on 4 October 2021. On the occasion, a webinar was organised on the theme 'Accelerating Urban Action for a Carbon Free World'. Mr M Anand, Principal Counsellor, IGBC and Vice Chairman, World GBC APN Region was the Chief Guest of the event and delivered address on the theme.

Observed World Standards Day on 14 October 2021. On the occasion, a webinar was organised on the theme 'Our Shared Vision for a Better World'. Mr Shivashankar Mugali, Scientist E & Former Director, Bureau of Indian Standards was the Chief Guest for the event and delivered the theme address.

Organised webinar on the topic 'Failure of Structures – Case Study' on 13 November 2021. Prof. S S Bhavikatti, Professor Emeritus, KLE Technological University, Hubballi was the Chief Guest of the event and delivered the theme address.

### Bokaro Steel City

Organised Technical Paper presentation on 23 January 2022 on the topic 'Coal Management and Coke Oven Bokaro Steel Plant' at Bokaro. Mr S K Pradhan presented paper on the topic and briefed about Coke making process to convert coking coal through a series of operations, into metallurgical coke.

## Chandrapur

Organized technical webinar on the topic 'Strengthening of RCC Structures using FRP Laminates' on 27 October 2021. Dr Uttar Awari, AISSMS College of Engineering, Pune highlighted the need for maintenance of repairs in the field of construction industries. He also focused on repairs of beams, slabs and columns of damaged structures to re-strengthen its LCC capacity. Dr Z K Khan, Principal, RCERT, Chandrapur emphasized the need of maintenance of old structures in day to day life and called the teachers and students to upgrade their knowledge in this field. Prof M K Shende, Associate Professor, Department of Civil engineering, RCERT Chandrapur highlighted the significance of maintenance of civil engineering structures.

Observed Energy Conservation Day on 14 December 2022 and a technical webinar was organised on the occasion jointly with Rajiv Gandhi College of Engineering, Research & Technology, Chandrapur. Prof Suvasish Mukhopadhyay, Associate Professor, College of Engineering, Pune discussed on the renewable energy resources and the need of energy conservation. Dr Z J Khan, Principal, RCERT, Chandrapur highlighted about energy conservation in civil engineering.

## Coimbatore

Organized technical webinar in association with the Department of Textile Technology, Kumaraguru College of Technology, Coimbatore on 25 September 2021. Mr B Soundarajan, Chief Executive Officer, Amarnaath Engineering, delivered Lecture on the theme 'Modern Manufacturing Methods of Contamination Free Surgical Cotton'.

Organized technical webinar on 01 October 2021, jointly with Department of Biomedical Engineering, Dr N G P Institute of Technology, Coimbatore on the theme 'Time-Frequency Analysis of Pathological Neural Oscillations using Hilbert-Huang Transform'. Dr Ramesh Perumal, Neuroengineering Researcher, Computer Vision Solution Engineer, Intel Corp, Taipei, Taiwan was the speaker on the occasion.

Organized International Conference on virtual platform in association with the Department of Information Technology, PSG College of Technology, Coimbatore on the topic 'Artificial Intelligence for Sustainable Applications (ICAISA -2021)' during 16-18 December 2021. Dr Diego Oliva, Associate Professor, Universidad de Guadalajara, Mexico delivered Keynote address on 'Meta-Heuristics Optimization: Open Challenges in Engineering'; Dr Liang Zhou, Professor, Shanghai Jiao Tong University, China spoke on the topic 'Intelligent Medicine: The Future has Come'; Dr Vijayan Asari, Professor University Dayton, USA discussed on 'Emotion AI: The State of Mind from Brain Waves'; Dr Barath Narayanan, Research Scientist, University of Dayton Research Institute, USA, delivered Special address on 'Applications of Artificial Intelligence'. Dr Niraj Kumar, Samsung Research Institute, Bangalore, delivered Lecture on the topic 'Advancements in Conversational AI Systems, Research Challenges and Solutions'; Dr Hoshang Koliv, Professor, Liverpool John Moores University, UK delivered lecture on 'Augmented and Virtual Reality in AI: Today and tomorrow'. Dr Millie Pant, Professor, IIT Roorkee deliberated on the topic 'Explainable AI: The Paradigm Shift'; Dr A Srinivasan, Senior scientist, CSIR-CMERI Durgapur delivered Keynote address on 'Role of AI in Security and surveillance'. Mr Sourabh Tiwari, Samsung Research Institute Bangalore delivered lecture on 'AI for Audio and Speech Processing, Deep Learning Challenges and Solutions'; Mr Sukheep Singh Kharbanda, Samsung Research Institute Bangalore discussed on 'Applications of Artificial Intelligence'; Dr Niraj Kumar, Samsung Research Institute, Bangalore delivered lecture on 'Advancements in Conversational AI Systems, Research Challenges and Solutions'.

Organized technical webinar in association with the Department of Automobile Engineering, Kumaraguru College of Technology, Coimbatore on 'Product Design and Development' on 18 December 2021. Speaker of the function, Mr B Imran Khan, Engineer - Mechanical Component, Baker Hughes – GE (Oil & Gas Industry), Coimbatore explained the new product development process of fuel filter and APQP process to be followed.

Organized technical webinar in association with Department of Production Engineering, PSG College of Technology, Coimbatore on 'Virtual Reality and the Metaverse' on 23 December 2021. Speaker of the event, Mr K Pradeep, Associate Professor, Department of Production Engineering, PSG College of Technology, Coimbatore explained Virtual Reality and its effect on industrial disruption. The webinar was focussed on advanced technologies like Virtual Reality, Blockchain and Metaverse.

Organized technical webinar on 27 December 2021 in association with the Department of Textile Technology, Kumaraguru College of Technology, Coimbatore on 'Exploration and Prospectus of Wild Silks in India'. Dr R N Manjunath, Scientist, Central Muga Eri Research and Training Institute, Central Silk Board, Ministry of Textiles, Government of India delivered Lecture on the theme and explained various types of silk used in different States in India and varieties of silk like domestic silk (mulberry), wild silk (tasar) and new type of silk, Cricula Trifenestrata.

Organized technical webinar in association with Department of Civil Engineering, KPR Institute of Engineering and Technology, Coimbatore on 'Current Waste Management Practices in India' on 30 December 2021. Speaker of the session, Dr Mayur Shirish Jain, Associate Professor, Department of Civil Engineering, Indian Institute of Technology Indore explained the current trends and techniques in waste management with conventional and advanced treatment methods available and its effectiveness in treatment.

Organized technical webinar in association with Department of Textile Technology, PSG College of Technology, Coimbatore on the topic 'Novel Dyes and their Properties for Potential Application in Textiles' on 10 January 2022. The resource person of the webinar, Dr J Nithyanandhan, Principal Scientist, Physical and Materials Chemistry Division, CSIR-National Chemical Laboratory, Pune explained the chemistry involved in the development of various functional groups in the organic dye molecules, basic properties of the dyes including solubility, ionic nature, reactivity etc.

### Durgapur

Organized technical Lecture Meeting jointly with NSHM Knowledge Campus, Durgapur on the theme 'The Future Trends and Prospects of Mechanical Engineering Education' on 04 December 2021 in online mode. Dr Manivannan, Scientist, CSIR-CMERI, Durgapur and Mr Manoj Kumar Biswal, Senior Technical Officer, CSIR-CMERI were the Speakers of the session.

### Goa

Observed 54<sup>th</sup> Engineers' Day on 15 September 2021 at Goa. Hon'ble Governor of Goa, Shri P S Sreedharan Pillai, graced the function as Chief Guest. Keynote speaker of the session, Mr Lalit Saraswat, CEO, Sancoale Technologies discussed on the theme 'Engineers for Skill Development and Employment in Combating COVID'. Mr Suneel Grover, Chairman, National Skill Development Forum, IEI also spoke on the occasion.

### Gorakhpur

Organized technical webinar on the topic 'Basics of Valuation of Real Estate' on 27 November 2021. Speaker on the session, Mr Ramesh Chandra Pandey explained different types of valuation of land and buildings, plants & machinery & finance assets/stocks and trades. He also differentiated between the price, value & cost.

### Gwalior

Gwalior Local Centre, IEI organised a seminar on the topic 'Role of ISRO in Building India' held at Hotel Ambassador Inn Auditorium, Gwalior on 15 November 2021. On the occasion, Speaker, Dr Naval Kishore Gupta, Former Deputy Director & Project Director, ISRO, deliberated on the topic and discussed in detailed about ISRO's programme.

### Hosur

Observed Energy Conservation Day on 14 December, 2021 and a technical webinar was organised on the occasion. Dr G Ranganath, Council Member, IEI and Principal, Adhiyamaan College of Engineering, Hosur was the

speaker of the Seminar. He briefly discussed about the energy conservation in modern world, its applications and emphasized on creating awareness on climate change and global warming.

Organized technical webinar on the topic 'Technology and Innovation in Modern Technology' during 20-21 December 2021. Speaker of the session, Dr J Arivudainambi, Past Chairman, Hosur Local Centre, IEI discussed about renewable energy, application of technology and innovation from transport efficiency to safety etc.

Organized technical webinar on the topic 'High Strain Rate Characterization of Nano Composite' on 24 December 2021. Dr Gutisdeswar, Assistant Professor, SRM Institute of Science and Technology was the resource person of the webinar. During Lecture he discussed about the knowledge of rate characterization of materials undergoing stress, application of nano composites and exposure of using residual materials using honeycomb materials.

Organized technical webinar on the topic 'Self – Eating Rockets' on 26 December 2021. Dr R R Elangovan, Retd Scientist, ISRO was the speaker of the event. During Lecture he discussed about AI applications in space, effect of space debris etc.

Organized technical webinar on the topic 'Optimization Study on Customer-based Supply Chain Network in Process Industry' on 27 December 2021. Speaker of the session, Dr T Anand, Assistant Professor, Department of Aeronautical Engineering, Adhiyamaan College of Engineering (Autonomous), Hosur discussed the latest technologies and innovation in the field of customer based supply chain network in new generation, its applications and benefits.

Organized technical webinar on the topic 'Functional Polymer Composite with Bio Nano Material as Advance' on 28 December 2021. Speaker of the event, Dr P S Venkatanarayanan, Professor, Hindustan Institute of Technology and Science, Chennai briefly explained the exposure of Nanocomposite materials, fabrication techniques and application of polymer/clay and nanocomposites.

Organized technical webinar on the topic 'Advanced Composite Materials and Manufacturing in Aerospace Industry' on 29 December 2021. Speaker of the session, Mr S Ganapathyappan, Assistant Manager, P3 Space System, Bengaluru in his lecture briefly discussed the primary structures of composites in commercial, industrial, marine and recreational structures, application of composite materials in mechanical and aerospace industries.

### Indore

Organized World Telecommunication and Information Society Day through online mode on 10 December 2021. Dr Bhupesh Kumar Lad, Associate Professor, Department of Mechanical Engineering, IIT Indore was the speaker on this day. He reinforced the importance of automation and smart manufacturing in industrial sector with number of case studies.

### Jabalpur

Organised web talk on 'Accelerating Digital Transformation in Challenging Times and Hunt for Life Bearing Planets' on 19 August 2021. Chief Guest of the function was Mr Sapan Bose, Former Chief General Manager, Bharat Ratna Bhim Rao Ambedkar Institute of Telecom Training, Jabalpur and Guest of Honour was Dr Mithilesh Tiwari, Former Scientist, ISRO & CSIR-NPL and Former Director, SAS-RC.

Organised webinar on the topic 'Issues and Challenges in Hydro-Electric Power Stations' on 29 August 2021. Chief Guest of the function was Mr R R Tanwar, Council Member, IEI. Mr P K Shrivastava, Former General Manager, THDC India Limited was the Guest of Honour and Keynote Speaker. Guest Speaker of the event, Dr D C Chaurasia, Former Honorary Secretary of Jabalpur Local Centre, IEI explained that organic materials, vegetation sediments and river soil decomposed and flow along with the water to the dam, which results in release of methane and CO<sub>2</sub>.

## Jamshedpur

Observed Energy Conservation Day on 14 December 2021 and a technical webinar was organised on the occasion. Speaker of the session, Mr Saroj Kumar, Head, LDC & Power Managements, Tata Steel Limited, Jamshedpur in his lecture explained different aspects of renewable and non renewable energy. He further discussed on energy consumption in steel industry, which is an energy intensive sector.

Organized webinar on the topic 'Environmental Management for Sustainable Growth in an Integrated Iron and Steel Plant' on 12 November 2021. Dr Ashok Kumar Vaish, Ex-Steel Chair Professor, Department of Metallurgical and Materials Engineering, Faculty of Technology and Engineering, The MS University of Baroda, Vadodara was the speaker of webinar. In his lecture, Dr Vaish stated that steel manufacturing involves large number of processing stages, which leads to the complex problems of environmental pollution. Moreover, he opined, slag generation constitutes major portion of solid waste, which effects productivity and involves high costs.

## Kanpur

Organised lecture programme through online platform on the topic 'Cement Industry & Sustainable Development' on 15 January 2022. Guest Speaker on the occasion, Mr Anvesh Kumar Singh, Deputy General Manager, Customer Technical Services, J K Cement Limited, Uttar Pradesh and Uttarakhand delivered lecture on the topic and discussed on the impact of climate change and global warming in cement industry.

## Kanyakumari

In co-ordination with St. Xavier's Catholic College of Engineering Students Chapter organized webinar on the topic 'Entrepreneurship Growth and Future' on 30 December 2021. The Chief Guest & Keynote Speaker of the session, Ms Angelin Indira Jeevamony, Founder & CEO, Ed-Zoe in her speech, deliberated on entrepreneurship, it's nature, development and advantages of being an entrepreneur etc.

Organised webinar on 10 January 2022 on the topic 'The Man and The Machine – The Future'. Speaker of the session, Dr Xavier Chelladurai, Director, Human Resource Development Centre and Professor, Department of Computer Science and Engineering, Christ University, Bangalore deliberated on the topic.

## Kozhikode

Observed 54<sup>th</sup> Engineers' Day on 19 September 2021 and organized webinar on the topic 'Engineers for Skill Development & Employment in Combating Covid'. Padma Bhushan Dr Sam Pitroda, Telecom Inventor, Entrepreneur, Development Thinker & Policy Maker was the speaker on the event. He pointed out that engineers are the problem solvers, builders, associate thinkers and having logical mindset with scientific background, which should be properly utilized for nation building.

## Munirabad

Observed World Habitat Day on 4 October 2021 at Munirabad. Sri Krishanji Chavan, Chief Engineer, Irrigation Central Zone, Munirabad and Sri L Basavaraj, Superintending Engineer, Tungabhadra Project Circle, Munirabad were the Chief Guests of the event. Sri Vrushab J Jain, Consultant Architect, Davangere was the Guest Speaker.

## Nashik

Organized seminar on 'Making Nashik an Aerospace & Defence Manufacturing Hub of India' at Nashik on 24 October 2021. On the occasion, the Guest Speakers were Mr Hemant Tukaram Godse, Member of the Parliament, and Mr Dhawan Rawal, Chief Managing Director, Abhudyat Bharat Mega Defense Cluster.

## Neyveli

Observed World Habitat Day on 13 October 2021 through online mode. Panellist, Mr M Mohamed Abdul Kader, General Manager, Estates, TA, NLCIL deliberated lecture on the topic 'Accelerating Urban Action for a Carbon-free World'.

Observed World Standards Day on 25 October 2021 through online mode. Mr S V Venkatesan, Deputy General Manager, SME, Mine-IA, NLCIL, Neyveli deliberated on the theme 'Our Shared Vision for a Better World'.

## Ranipet

Organised Industrial Visit to Same Deutz Fahr (India) Private Limited on 13 December 2021 at Sipcot Industrial Complex, Ranipet.

## Saurashtra

Organized webinar on the topic 'Hybrid Electric Vehicle' on 18 February 2022. The main objective of the programme was to elaborate the basic rules of conversion of conventional vehicle into Plug-in Hybrid Electrical Vehicle and for those who may start automobile industry. Speaker of the event, Dr Pritam Keshavdas Gujarathi, Director & Consultant, I-Switch Technology & Business Services, Gandhinagar explained the basic level and moderate level of electric vehicle and discussed on conversion of conventional vehicle into Plug-In Hybrid Electrical Vehicle.

## Tiruchirappalli

Jointly with Computer Society of India, Tiruchirappalli organised lecture meeting on the topic 'Machine Learning' via online platform on 14 September 2021. Mr S Peebarsha, Assistant Professor, Department of Computer Science, M/s Jamal Mohamed College, Tiruchirappalli delivered lecture on the topic and deliberated on machine intelligence and man-machine interface.

Organised lecture meeting on 5 October 2021 through virtual mode. Mrs Rajeshwari R, Assistant Professor, Department of Biomedical Engineering, K P R Institute of Engineering and Technology, Coimbatore deliberated lecture on the topic 'Medical Waste Management and its Social Impact'. During deliberation, she focussed to create awareness about medical waste management in specified areas, namely eco-responsibility, effective waste disposal and management technologies, control and monitoring of land filling, waste diversion plans, improvements of thermal waste treatment and how medical sectors can take up the eco-product responsibility.

Organised lecture meeting on the theme 'An Overview on Technical Textiles' on 30 November 2021 through online platform. Speaker, Dr V Kumar, Consultant, Sri Sairam Textile Consultancy, Coimbatore delivered lecture on the topic.

Organized webinar in association with Computer Society of India, Tiruchirappalli Chapter on the theme 'Artificial Intelligence – The Future World' on 09 November 2021. Dr P Gokulakrishnan, Professor, Department of Computer Science Engineering, PSNA College of Engineering & Technology, Dindigul was the speaker of the webinar session.

Organized webinar in association with Computer Society of India, Tiruchirappalli Chapter on the theme 'Reconfigurable Computing for Wireless Applications' on 23 November 2021. Dr C Vennila, Professor, Department of Electronics & Communication Engineering, Saranathan College of Engineering, Tiruchirappalli was the speaker on the event. Discussion obtained on Hardware Adaptation: Multiplexing, Partial Reconfiguration Terminology, Dynamic Partial Reconfiguration, Reconfigurable computing for Wireless Applications.

Organized technical webinar on the topic 'Antenna Design and Measurement' on 02 November 2021. Speaker on the occasion, Ms S Kavitha, Assistant Professor, Electronics & Communication Engineering Department, MAM College of Engineering & Technology, Tiruchirappalli stated that antenna is

a device that provides transition between guided electromagnetic waves in wires and electromagnetic waves in free space. Modern microstrip patch antennas are employed for the civilian and military applications such as television, broadcast radio, mobile systems Global Positioning System (GPS), Radio Frequency Identification (RFID), Multiple Output Systems (MIMO), she added. However, she explained that despite the advantages of typical micro strip antennas – there are few disadvantages, namely narrow bandwidth, low gain, and relatively large size.

Organized technical webinar on the topic 'Modern Distribution Systems' on 16 November 2021. Speaker of the session, Dr M Venkatakirthiga, Associate Professor, Department of Electrical & Electronics Engineering, National Institute of Technology Tiruchirappalli discussed application of distributed generators (DGs) in distribution systems and opined that the design, operation and maintenance of the equipment need to be focussed before implementation. Design of modern distribution systems involve optimal local and sizing identification followed by optimal structure of the systems; Optimal structure of the system requires minimum circuit breaker replacement and minimal circuit breaker malfunctioning is the need of the hour, she added further.

#### Tirunelveli

Organized technical seminar on the topic 'Cloud Computing Overview' through online mode on 16 October 2021. On the occasion, Resource person, Mr Bala Subramanian Vetrivel, Cloud Certified Engineer, TCS, Chennai delivered the lecture on the topic. During lecture, he briefly explained about the cloud computing applications, platforms, infrastructure, benefits and security with real time examples.

Organized Seminar on the topic 'Environmental Site Assessment (ESA)' on 08 November 2021. Chief Guest and the resource person of the event, Mr R Pandia Raja, General Manager, Shrusti Construction, Chennai explained the purpose of environment site assessment and how to prepare the assessment report. He also delivered the importance of preliminary site assessment tool for obtaining information about a site.

Organized technical webinar on the topic 'Introduction to Data Science and Machine Learning' on 11 November 2021. Speaker of the session, Dr Raja A S, Associate Consultant, Data Engineering and Data Services, Envestnet, Trivandrum explained the significance and benefits of data science and machine learning and placed real time examples on machine learning concepts.

#### Tiruvallur

Organized technical webinar on the topic 'Why there is need for a Smart Metering in the Process of Energy Conservation' on 15 December 2021. Speaker of the event, Ms P Ezhilarasi, Research Scholar briefly explained about the aspects of Smart Meter, Evolution of Smart Meter, Types of Smart Meter and lot more.

Organized technical webinar on the topic 'Climate Change and Its Impact' on 16 December 2021. Speaker of the event, Mr M Prakash, Assistant Engineer, TNEB explained the impacts of climate change, ocean acidification, precautions and lot more informative ideas.

Organized technical webinar on the topic 'Energy Conservation in Thermal Power Station' on 17 December 2021. Speaker on the occasion, Mr D Anand Kumar, Assistant Engineer, Thermal Power Station-2/TANGEDCO explained energy conservation and its importance, factors affecting thermal power station, causes and prevention of losses of thermal power plant.

Organized technical webinar on the topic 'Energy Conservation in Home' on 16 December 2021. Speaker of the session, Mr N Perumalsamy, Junior Engineer, TNEB explained energy conservation and its importance, power system, renewable energy, star rating etc.

Organized technical webinar on the topic 'Energy Conservation in Vehicles' on 20 December 2021. Speaker of the session, Mr R Suruliraja, AGM, Research and Development, Rambal Limited explained various aspects of energy conservation and its importance in vehicles, associated benefits, etc.

Organized technical webinar on the topic 'Energy Conservation Day 2021 – Awareness Program' on 19 December 2021. Dr L Ramesh, Chairman, Tiruvallur Local Centre, IEI explained the energy conservation and its importance in home and also by Dr J Balamurugan, Honorary Secretary, Tiruvallur Local Centre, IEI.

Organized technical webinar on the topic 'Energy Management of Inverter and Battery in Renewable Power System' on 14 December 2021. Dr K Mohanasundaram, Professor (EEE) and Associate Head Centre for Research and Development, KPR Institute of Engineering and Technology, Coimbatore was the speaker of the webinar. He explained about the Energy Management of Inverter and Batteries, grid and improvement technology opportunities in renewable power system.

Organized World Habitat Day on the topic 'Accelerating Urban Action for a Carbon Free World' on 04 October 2021 through online mode. Mr J Munirathnam, Founder Director, J M Consulting Private Limited and Chairperson, EEB, SAE, India was the speaker of the event.

Organized 54<sup>th</sup> Engineers Day on the theme 'Engineers for Skill Development & Employment in Combating COVID' on 12 October 2021. Prof P Sanjeevikumar, Department of Business Development and Technology, Aarhus University, Denmark was the speaker of the event.

Organized World Standards Day on the topic 'Our Shared Vision for a Better World' on 14 October 2021. The Keynote speaker of the event was Mr M Ganesh, ISO Lead Auditor, EX GM, SFO, Salah, Oman mentioned the benefits of ISO Standards. Other speakers on the occasion were Mr K S Sridharan, Former Deputy Chief, ICF Southern Railways, Dr A Kannan, Dr MGR Educational & Research Institute and Dr K Geetha, Dean, JCT College of Engineering & Technology.

#### Tumakuru

In association with Channabasaveshwara Institute of Technology, Gubbi organized a motivational session on 'Entrepreneurship and Start-up India' at Tumakuru on 30 December 2021. Dr Enti Ranga Reddy, Chairman and Managing Director, Legend Technologies (India) Private Limited and Council Member, IEI graced the occasion as Chief Guest and Keynote speaker and shared his thoughts.

#### Tuticorin

Organized Lecture Meeting on the topic 'Condition Monitoring in Chemical Industries' on 27 July 2021 at Tuticorin. Er G T Bala Chidhambaram, Senior Scientific Officer, Heavy Water Plant, Tuticorin was the Chief Guest

*Contd. on page 15*

## Industry 5.0 and Green IoT with Relevant Future Technologies

*Contd. from page 5*

situation where all have jumped to technology based systems in almost all corners of life. Dr Mahamuda Sultana, in her deliberation, focused on Green IoT based technologies. Dr Sultana demonstrated on different aspects of circuit design and explore innovative ideas in these areas. At the end of the deliberations by the panelists, there was a Question Answer (QA) session where questions came from different participants, which were nicely handled by both the speakers and also by the moderator. Around 200 participants from all across the country from Industry and Academia participated in the webinar. The webinar ended with a vote of thanks by Mr Sudeep Chakraverty, Assistant Director (Technical), IEI.

# Hundred-and-second Annual General Meeting of The Institution of Engineers (India)

## PROCEEDINGS

The 102<sup>nd</sup> Annual General Meeting (AGM) of The Institution of Engineers (India) was held at 1700 hrs on 27 Dec 2021 at Vigyan Bhawan, Maulana Azad Road, New Delhi-110003.

Attended by 149 Corporate Members, the meeting was chaired by Mr Narendra Singh, FIE, President, IEI. The President welcomed the Past Presidents, President-elect and Corporate members of IEI present at the meeting.

On being invited by the President, the Secretary and Director General read out the Notice of the meeting published in November 2021 issue of IEI News.

### ITEM 1 Confirmation of Minutes of the 101<sup>st</sup> Annual General Meeting held on 28 Feb 2021 at Dehradun

The Minutes of the 101<sup>st</sup> Annual General Meeting held on 28 Feb 2021 at Dehradun have been circulated in the March 2021 issue of IEI News, [Vol. 27, No. 12]. President invited comments on the Minutes from the members present.

The Corporate Members present unanimously Resolved that the Minutes of the 101<sup>st</sup> Annual General Meeting of The Institution of Engineers (India) held on 28 Feb 2021 at Dehradun be confirmed.

### ITEM 2 To receive the Annual Report of the Council and the Audited Accounts of The Institution of Engineers (India) for the year ended on 31 March 2021

#### (a) Annual Report

President invited comments from the members present on the Annual Report of the Council for the year 2020-2021 as circulated.

The Corporate Members present unanimously Resolved that the Annual Report of the Council for the year 2020-2021 be received.

#### (b) Audited Accounts

President then invited comments on the Audited Accounts of The Institution of Engineers (India) for the year ended on 31 March 2021.

The Corporate Members present unanimously Resolved that the Audited Accounts of The Institution of Engineers (India) for the year ended on 31 March 2021 be received.

### ITEM 3 To receive the report on the composition of the Council for the Session 2021-2022

On being requested by the President, the Secretary and Director General reported the following composition of the Council for the Session 2021-2022:

Dr Hemant O Thakare, President.

#### (1) Under provisions of Bye-Law 4(a)(ii)

The following, by virtue of their being the two Immediate Past Presidents, shall become Members of the Council for the Session 2021-2022:

Narendra Singh

Dr T M Gunaraja

#### (2) Under provisions of Bye-Law 4(a)(iii)

The Corporate Members elected to the Council from the following State Centres for sessions 2021-2022 to 2024-2025 shall be Members of the Council for its Session 2021-2022:

#### Elected for the Sessions 2021-2022 to 2024-2025:

Gujarat	::	Sandeep B Vasava
Karnataka	::	Dr M Chowde Gowda
Maharashtra	::	Manish Mahendra Kothari
Odisha	::	Prof (Dr) Khiroda Kumar Rout
Tamilnadu	::	Dr G Ranganath
Telangana	::	M Shyamprasad Reddy
Uttar Pradesh	::	V B Singh

As election from Andhra Pradesh State Centre to the Council could not be conducted under this Bye-Law, co-option to the Council for session 2021-2022 may be done under provision of Regulation 17.

The Corporate Members elected to the Council from the following State Centres shall continue as Members of the Council for the Session 2021-2022:

#### Elected for the Sessions 2019-2020 to 2022-2023 and with term extended upto 2023-2024:

Haryana	::	Ashwani Kumar Sharma
Punjab & Chandigarh	::	Sukhvir Singh Mundi

#### Elected for the Sessions 2018-2019 to 2021-2022 and with term extended upto 2022-2023:

Bihar	::	Dr Arun Kumar Shrivastava
Jharkhand	::	Shivanand Roy
Madhya Pradesh	::	Rakesh Kumar Rathore
Rajasthan	::	Dr S K Calla
West Bengal	::	S K Banerji

#### Elected for the Sessions 2017-2018 to 2020-2021 and with term extended upto 2021-2022:

Kerala	::	V Vijayachandran Nair
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#### (3) Under provisions of Bye-Law 4(a)(iv)

The following elected members from 15 Engineering Divisions for the Sessions 2021-2025 shall become members of the Council for the Session 2021-2022:

Aerospace (1)	::	Dr Venkitakrisnan P V
Agricultural (1)	::	Prof (Dr) Nemichandrappa M
Architectural (1)	::	Sandip Kumar Deb
Chemical (2)	::	Dr Raghupatruni Bhima Rao Prof (Dr) Ms Shilpa Tripathi
Civil (5)	::	M Nagaraj Dr I Satyanarayana Raju P Surya Prakash Dr S M Goel Anil Joseph
Computer (2)	::	Amit Kumar Das Prof (Dr) Chandrashekara S N

Electrical (4)	::	R R Tanwar S Dharmalingam A Sekar K K Gopalakrishnan Nair
Electronics & Telecommunication (4)	::	Dr (Ms) G Padmavathi Prof (Dr) G S Mundada Dr Aloknath De S S Mutha
Environmental (1)	::	J C Singhal
Marine (1)	::	Cdr B M Bhandarkar
Mechanical (5)	::	Dr Enti Ranga Reddy Prof (Dr) K Venkatasubbaiah Prof (Dr) Brahma Raju K Sajjan Singh Yadav Dr R Venkatesan
Metallurgical & Materials (1)	::	K K Mehrotra
Mining (1)	::	Prof (Dr) Netai Chandra Dey
Production (1)	::	Dr Seeram Satyanarayana
Textile (1)	::	Dr Sadhan Chandra Ray

#### (4) Under provisions of Bye-Law 4(b)(i)

By virtue of being Chairmen of the following State Centres for the Sessions 2021-2022 and 2022-2023, following persons have become ex-officio members of the Council for its Session 2021-2022:

Andaman & Nicobar	::	M Sivaramasubramanian
Arunachal Pradesh	::	Toli Basar
Assam	::	Nripendra Nath Patwari
Bihar	::	Bhupendra Nath Singh
Chhattisgarh	::	Dr V K Pandey
Goa	::	G H Karkare
Gujarat	::	P M Chaudhary
Jammu & Kashmir	::	Dr R A Khan
Jharkhand	::	M I Alam
Karnataka	::	M Lakshmana
Kerala	::	Ashok Kumar K
Maharashtra	::	Mahendra Ratanlal Kothari
Manipur	::	W Homendra Singh
Meghalaya	::	E Lyngdoh
Mizoram	::	K Lalsawmvela
Odisha	::	Dr Bhagyadhar Bhoi
Puducherry	::	Prof (Dr) B Radjaram
Rajasthan	::	Gunjan Saxena
Tamilnadu	::	S Kannan
Telangana	::	B Brahma Reddy
Uttarakhand	::	Dharm Chandra
Uttar Pradesh	::	Masarrat Noor Khan

Election to the office of Chairman, West Bengal State Centre for sessions 2021-23 could not be held as the matter is sub-judice. The Chairman-elect, Delhi State Centre shall assume office on the date of the AGM of the Centre and shall become ex-officio member of the Council subsequently, as per Regulation 7(a).

By virtue of being Chairmen of the following State Centres for the Sessions 2019-2020 and 2020-2021, following persons whose terms stand extended

upto 2021-2022 shall continue as members of the Council for its Session 2021-2022:

Andhra Pradesh	::	Dr K H Reddy
Haryana	::	Dr (Ms) V K Gupta
Himachal Pradesh	::	Pankaj Dadwal
Madhya Pradesh	::	Rajesh Bisaria
Nagaland	::	D A Shishak
Tripura	::	Chinmay Debnath
Punjab & Chandigarh	::	Sukhvir Singh Mundi
Sikkim	::	G P Sharma

#### (5) Under provisions of Bye-Law 4(b)(ii)

By virtue of being elected as the Chairmen of the following Local Centres for the Sessions 2021-2022 and 2022-2023, the following persons have become members of the Council for its Session 2021-2022:

Belapur	::	K M Godbole
Coimbatore	::	Prof (Dr) S Shanmugam
Durgapur	::	Safikul Islam
Ghaziabad	::	R P Sharma
Kancheपुरam	::	Prof (Dr) D Elango
Kochi	::	Salahudheen P A
Ludhiana	::	Daljit Singh
Madurai	::	Dr N Sivasubramanian
Mysore	::	B S Prabhakara
Nagpur	::	M A Pathak
Neyveli	::	Shaji John
Pune	::	Dr S B Zope
South Gujarat	::	Dr V J Gobarbhai
Tiruchirappalli	::	N Rajasekaran
Vadodara	::	Ambikesh Natvarlal Padhya

By virtue of being Chairmen of the following Local Centres for the Sessions 2019-2020 and 2020-2021, the following persons whose terms stand extended upto 2021-2022 shall continue as member of the Council for its Session 2021-2022:

Nashik	::	S K Khinvasara
Visakhapatnam	::	Dr B Venkataramana

#### (6) Under provisions of Bye-Law 4(c)

Following four outstanding engineering personalities have been nominated as members of the Council for its Session 2021-2022:

1. Amitabha Ghoshal
2. Ram Niwas Rajpoot
3. Prof (Dr) Rakesh L Shrivastava
4. Prof (Dr) R Velraj

Further, Corporate Member shall be co-opted in the Council for the Session 2021-2022 under provision of Bye-Law 13.

#### ITEM 4 To appoint Auditors for the year 2021-2022 and to fix their remuneration

President proposed that Auditors M/s G Basu & Co., Chartered Accountants be appointed as Auditors of The Institution of Engineers (India) for the year 2021-2022 at a remuneration of Rs.3,00,000 + Taxes as applicable.

It was then Resolved that M/s G Basu & Co., Chartered Accountants, be appointed as Auditors of The Institution of Engineers (India) for the year 2021-2022 at a remuneration of Rs.3,00,000 + Taxes as applicable.

The meeting was declared closed at 1800 hrs.

## West Bengal State Centre



West Bengal State Centre of the Institution felicitated Dr Hemant Omkarrao Thakare, FIE, President, IEI; Mr V B Singh, FIE, Vice President, IEI; and Mr Sandip Kumar Deb, FIE, Vice President, IEI on February 10, 2022 at Sir R N Mookerjee Hall, Kolkata.

## Uttar Pradesh State Centre



Uttar Pradesh State Centre of the Institution felicitated Dr Hemant Omkarrao Thakare, FIE, President, IEI and Mr V B Singh, FIE, Vice President, IEI on 27 February 2022 at Lucknow. Mr Durga Shankar Mishra, IAS, Chief Secretary, Government of Uttar Pradesh graced the function as Chief Guest. Mr Anurag Srivastava, IAS, Principal Secretary, Namami Gange and Rural Water Supply Department, Government of Uttar Pradesh ; Mr Satya Prakash, MD, UPRNPL and Mr S K Verma, Ex-MD, UPPCL were present on this auspicious occasion.



# The Institution of Engineers (India)

## Notification for

### R&D Grant-in-Aid (2022-23)

To promote appropriate technology, assist in building up design & research talents and, most importantly, to help in nurturing potential R&D venture amongst engineering students pursuing Diploma/UG/PG/PhD courses, The Institution of Engineers (India) had instituted the R&D Grant-in-Aid program way back in 2001.

Like every year, the Institution invites applications for the session 2022-2023 for funding industry-oriented R&D projects and research initiatives aimed at improving the life-style of common people from engineering students pursuing full time Diploma/UG/PG/PhD engineering program in AICTE/UGC/NAAC approved Institutions/Colleges/Universities. The application form and guidelines are available in our website <https://www.ieindia.org>. The projects should be carried out under the guidance of faculty members who are Corporate Members of IEI. Membership criteria for student(s), guide(s) and Institution(s) are as follows:

Project Category	Student/Applicant Membership	Guide(s) Membership	Institutional Membership
1. Diploma	Exempted [Membership of Student Chapter is desirable]	AMIE/MIE/FIE	Not Mandatory
2. UG (BE/BTech/AMIE/Equivalent)	'Student Member' (SMIE)	AMIE/MIE/FIE	Applicant's Institute should preferably be an Institutional Member with NBA / NAAC Accreditation or valid NIRF Rank
3. PG (ME/MTech/Equivalent)	AMIE/MIE/FIE	MIE/FIE	Applicant's Institute should preferably be an Institutional Member with NBA / NAAC Accreditation or valid NIRF Rank
4. PhD	AMIE/MIE/FIE	MIE/FIE	Applicant's Institute should preferably be an Institutional Member with NBA / NAAC Accreditation or valid NIRF Rank

The soft copy of the duly filled-up applications (in editable format), as per the pro-forma available in our website [www.ieindia.org](http://www.ieindia.org), should be sent through email to [research@ieindia.org](mailto:research@ieindia.org) and one printed copy of the same should reach the following address:

**Director (Technical)**  
**The Institution of Engineers (India), 8 Gokhale Road, Kolkata 700 020**

Applications received in format other than that available on our website will not be accepted. Application should be forwarded through the Guide, Head of the Department or Head of the Institution. Please note that preference will be given to project proposals received from Institutions who are members of The Institution of Engineers (India) and with NBA / NAAC Accreditation or valid NIRF Rank. Kindly go through the guidelines (visit link <https://www.ieindia.org/webui/IEI-Activities.aspx#RnD-Initiative>) carefully before filling up the application.

The grant is not intended for the faculty members who have access to other avenues of research funding. Proposals received will be scrutinized and the recipients of R&D Grant will be informed accordingly.

## Superannuation from IEI



Mr Dineswar Das, an employee of the Assam State Centre of the Institution will be superannuating from the services of IEI on March 31, 2022. He joined the Institution on January 01, 1991 and rendered his services to the Institution over a period of 31 years.

IEI wishes Mr Dineswar Das and his family a happy and healthy life in the future.

## News-in-Brief

Contd. from page 11

and Keynote Speaker of the event. The speaker, in his deliberation lucidly explained the parameters to be monitored in machinery such as vibration, temperature, etc in order to identify a significant change which is indicative of a developing fault. He mentioned that chemical industries are normally sensitive to production interruption and, due to long production chains in the lines, breakdowns have a major negative impact.

### Water Management Forum

Water Management Forum, IEI in association with the Ahmedabad Chamber of Commerce Welfare Foundation & Connect Start-up Dots Team organized 'Mega Event & A Mega Exhibition for Start-ups on Social Impact Through

Technology or Innovation' jointly with Gujarat State Centre, IEI; Computer Society of India, Ahmedabad Chapter; Gujarat Traders Federation; L D College of Engineering, Ahmedabad; Welspun Group during December 1-2, 2021 at L D College of Engineering, Ahmedabad. Prof (Dr) Navin Sheth, Hon'ble Vice Chancellor, Gujarat Technological University graced the occasion as Chief Guest and addressed the gathering. Dr Rajulben K Gajjar, Principal, L D College of Engineering, Ahmedabad & Mr R D Barhatt, General Manager, District Industries Centre graced the occasion as Guests of Honours. During the valedictory function, Mr Navinchandra B Vasoya, Past President, IEI was the Chief Guest. Mr Mahendrasinh Sodha, Vice President, Corporate Affairs, Welspun Group was present on the session and addressed the gathering.



## The Institution of Engineers (India)

### IEI YOUNG ENGINEERS AWARD 2022-2023

#### Notification

The Institution of Engineers (India) is a multi-disciplinary professional body of engineers with 15 engineering disciplines and over 9,00,000 members in India and abroad. The Institution was established in 1920 and was incorporated by Royal Charter in 1935. It has been in the forefront of engineering profession addressing the socio engineering problems for progress of the country. IEI functions among professional engineers, academicians, research workers to update their professional knowledge through continuous professional development. With its large international linkages and a network of 125 Centres in India and Six Overseas Chapters, the Institution has built up wide reach and large infrastructure to meet its objectives of promoting engineering in all aspects.

With a view to promote the pursuit of excellence in the field of engineering, IEI has instituted 'IEI Young Engineers Award'. The Award consists of a Plaque and a Certificate. The purpose of the Award is to recognize outstanding achievements/contributions made by young engineers in engineering research, excellence in engineering technology development, technology transfer, etc. Any engineer citizen of India not older than 35 years of age as on March 31, 2022 is eligible for the Award. The IEI Young Engineers Award is presented to awardees for all the 15 Engineering Divisions of the IEI during the respective National Conventions. The awardees attending the National Convention will be provided with free accommodation & their traveling expenses (AC-3 Tier train fare by shortest route) will be reimbursed on production of original documents.

The Application Proforma may be downloaded from the link <https://www.ieindia.org/webui/IEI-Activities.aspx#young-engineering-awards>. Soft copy of the filled-in application proforma should be forwarded to [award@ieindia.org](mailto:award@ieindia.org) by **May 31, 2022**. Further, six copies of the duly filled application form, along with all supporting documents, endorsed by appropriate authority should be sent to the below mentioned address so as to reach us latest by **June 10, 2022**:

#### Director (Technical)

The Institution of Engineers (India)  
8 Gokhale Road, Kolkata 700020

The envelope containing the application should be superscribed at the top as 'IEI Young Engineers Award 2022-2023' and name of the engineering division under which the applicant desires to be considered for the Award.

### FORM IV

(See Rule 8 of The Registration of Newspapers (Central) Rules, 1956)

Statement about ownership and other particulars about IEI News of The Institution of Engineers (India) to be published in the first issue every year after the last day of February

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I, Maj Gen MJS Syali, VSM (Retd), Secretary and Director General of The Institution of Engineers (India), hereby declare that the particulars given above are true to the best of my knowledge and belief.

Dated : March 01, 2022

Sd/-  
Maj Gen MJS Syali, VSM (Retd)  
Signature of Publisher

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The Institution of Engineers (India) as a body accepts no responsibility for the statements made by individuals. Reprints of any portion of the publication may be made provided reference thereto is quoted.

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