



# I.E.I NEWS

June 2021

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A CENTURY OF SERVICE TO THE NATION

Volume 28

Number 3

## IEI Brain Storming Session

### Engineers' Achievement and Role in COVID Control and Management



Er Narendra Singh

With the objective to assess the role and contribution of the engineering fraternity nationwide during the pandemic and also to determine the IEI strategic roadmap to combat COVID-19, a Brain Storming Session was organized on 31 May, 2021 through virtual mode on the theme **Engineers' Achievement and Role in COVID Control and Management** in the august presence of President, IEI, Vice Presidents, IEI, Chairman, CATE, IEI, Chairmen, Division Boards, Committees, Fora and Organ, IEI. Er Narendra Singh, President, IEI in his address, highlighted the immense contribution of IEI by organizing cloud-based events on contemporary themes and disseminating knowledge, facts and information to its' Corporate Members and through publication of articles/reports. President, IEI further highlighted the need-based research and innovations undertaken by the engineers, scientists and technologists during the national crisis.

Prof (Dr) K Venkatasubbaiah, Vice President, IEI felt that primary education and the basic medical amenities and treatment should be available to each and everybody and

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## Observation of World Environment Day under the aegis of Environmental Engineering Division Board, IEI

### Ecosystem Restoration

The Environmental Engineering Division Board (ENDB) IEI celebrated World Environment Day on 5 June 2021 in virtual mode. On this occasion, ENDB, IEI organized a Central Webinar on the theme **Ecosystem Restoration**. Prof (Dr) Prakash Kumar, Department of Biological Sciences, National University of Singapore, Singapore graced the function as Chief Guest and Prof (Dr) E V Ramasamy, Dean, Faculty of Environmental and Atmospheric Sciences, Mahatma Gandhi University, Kottayam, Kerala as Guest of Honour. Dr M Velan, Chairman, ENDB, IEI presided over the function and delivered the welcome address. Members of Environmental Engineering Division Board, Mr Anil Kumar Sharma, Dr G Rameshwar Rao, Prof (Dr) Raman Saravanane, Mr Jasmail Singh and Chairman, Board of Governors-National Skill Development Forum, (BOG-NSDF), Mr Suneel Grover participated in the knowledge sharing session of the event. The session was well attended by almost 600 participants across the globe in virtual platform.



Prof (Dr) E V Ramasamy



Prof (Dr) Prakash Kumar

Dr M Velan, Chairman, ENDB, IEI in his address introduced the theme of the event and highlighted the significance of the logo of World Environment Day, 2021 and stated that degradation of the ecosystem is due to ecological disruption, rapid population growth,

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



The second wave of the everlasting pandemic results in a deep impact on the Indian economy and industry. The magnitude and speed of collapse in economic activities that India has seen over the last one and half years is unprecedented and there is tremendous uncertainty about the future for businesses and enterprises. The entire world is fighting continuously against an invisible opponent that has forced all to push the pause button on the conventional routine. At the outset, when COVID-19 pandemic directly hit and interrupt the organizational functioning, and the business enterprises are very much engaged with agile analytics to move forward with uncertain new normal and a dilemma; engineers and technologists are in the forefront with their tireless effort to provide a customer-centric approach by all means to deliver impactful output by leveraging technology and expertise.

Supply of medical oxygen to the critical care points in the right quantity, specifications and time is imperative during this disruption caused by the second wave of pandemic. It is worth mentioning that engineers and scientists are working continuously to install and operate more oxygen plants at different pandemic healthcare points within the shortest possible time, engaged with development and manufacturing of oxygen concentrators with higher efficiencies, fabrication of medical oxygen cylinders & accessories, development of low-cost ventilation units, etc. Moreover, the untiring effort of the professionals all over the country has resulted in uninterrupted supply chain of medical oxygen as the first and foremost life-saving anecdote. Biotechnologists, virologists, researchers, and scientists are engaged to explore more about coronavirus behavior, the effect of virus variants on vaccines, the impact of COVID-19 virus variants on the effectiveness of different vaccines, and so on. Data scientists are developing forecasting models and algorithms about the pandemic characteristics to obtain a suitable strategy in taking purposeful decisions.

Technical textile in healthcare, during the pandemic has become more relevant, when India is self-reliant in producing a large number of PPE coveralls, face masks, protective gears, biodegradable body bags etc. The PPE coveralls are being manufactured as per laid down norms by the Ministry of Health and Family Welfare, Government of India in line with the WHO Guidelines for COVID-19.

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## Engineers' Achievement and Role in COVID Control and Management

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**Prof (Dr) K Venkatasubbiah**

recommended vaccination for all Corporate Members of IEI, by coordination with the State and Local Centres of the Institution.

Mr Sandeep B Vasava, Vice President, IEI in his address, deliberated on the challenging situation, the engineers are facing to meet the growing demand of medical oxygen, the most significant input for saving so many lives, affected in pandemic.

Prof (Dr) Swapan Bhaumik, Chairman, Committee for Advancement in Technology & Engineering (CATE), IEI in his address stated that the country is passing through the second wave of the pandemic,



**Prof (Dr) Swapan Bhaumik**

when the dynamic and motivated engineers of the country can explore the engineering novelties, which include development of oxygen concentrators, eco-friendly home isolation units, scientific disposal of COVID waste, development of energy efficient biomass gasifier based crematorium and so on, which leads to an effective and result-oriented COVID-19 Management system.

Mr Pradeep Chaturvedi, Chairman, Interdisciplinary Coordination Committee (ICC), IEI opined that this is the right time, when IEI should reveal its human face. Mr Chaturvedi, presuming the second wave and anticipated third wave of pandemic, strongly advocated for uninterrupted supply chain for medicine, oxygen, vaccine, accessories etc at the right point at shortest possible time and mentioned that IEI has competent engineers' workforce to achieve COVID solutions for mankind. Chairman, ICC recommended for localized COVID-19 Management through coordination within State and Local Centres of IEI, which may be in the form of engineering solutions, or COVID relief and support, and it also help IEI in image building. He stressed on organizing more virtual events with eminent doctors, engineering professionals as speakers and liaison with the State Governments and



**Mr Pradeep Chaturvedi**

other reputed bodies to find out the solutions to this crisis.

Mr R R Tanwar, Chairman, Centre's Co-ordination Committee (CCC), IEI stressed on self immunity and resistivity through physical exercise with minimum medicine back-up.



**Mr R R Tanwar**

Mr Harish Kumar Mittal, Chairman, Architectural Engineering Division Board (ARDB), IEI in his address highlighted the transformation in architectural design of public spaces, residences, offices in the new normal, taking into account social distancing, remote working etc. Chairman, ARDB in his address further focused on work specific interior design, flexible building design, modular construction and multidimensional use of buildings, etc and proposed to organize webinars on architectural design aspects during pandemic times.



**Mr Harish Kumar Mittal**

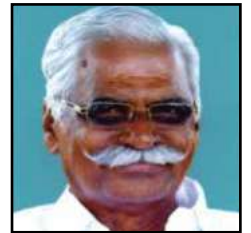
Prof R M Vasagam, Chairman, Aerospace Engineering Division Board (ASDB), IEI in his address highlighted that during the pandemic, the engineering applications specific for space are now being applied for



**Prof R M Vasagam**

mankind. He mentioned that Indian Space Research Organization (ISRO) has joined the fight against COVID 19 and developed portable medical oxygen concentrator and cost-effective ventilation units. He also mentioned that Defence Research and Development Organization (DRDO) is continuously tracking the alarming spread of COVID 19 and developed different products to combat the pandemic.

Mr S Rajagopal, Chairman, Chemical Engineering Division Board, (CHDB), IEI, emphasized on indigenous production of oxygen plants, development of oxygen filling stations, production of more oxygen compressors and other accessories, more production and supply of zeolite, which are used in oxygen concentrators to constitute the molecular sieves, that acts as atmospheric nitrogen scrubber.



**Mr S Rajagopal**

Mr V B Singh, Chairman, Civil Engineering Division Board, (CVDB) IEI in his address focused on the application of Artificial Intelligence based Forecasting Models and Algorithms, streamlined telemedicine system, monitoring and control of vaccination and providing more robotic applications in COVID care units, rapid construction and transformation of safe homes to comply with the deficit in isolation treatment and development of sustainable technology to combat the pandemic in long run.



**Mr V B Singh**

Mr P Rajamani, Chairman, Electrical Engineering Division Board (ELDB), IEI in his deliberation highlighted the role of engineers and technologists to fight the second wave of pandemic by meeting the large demand of oxygen cylinders and concentrators, ventilation units, ambulances, steam generation units etc. He further stressed on sanitization of office and home complexes, monitoring of the COVID situation by drones, IoT based data monitoring, enhanced application of indigenous design in healthcare, supply of indigenous materials and components including zeolites, cylinder & accessories, uninterrupted power supply to the hospitals, etc. Mr Rajamani also suggested that steam generators should be provided at all the establishments just like sanitary spray provided at the entrances and the incumbents and the customers should be compelled to take steam inhaling once in six hours so that any viral infection in the nose and throat can be controlled and hot water should be given for drinking once in two hours. The Defence Bio Engineering and Electromedical Laboratory (DBEL) should encourage the entrepreneurs for start-up Industries by transferring their technology free of cost, he mentioned.



**Mr P Rajamani**

Mr B S Patel, Chairman, Computer Engineering Division Board (CPDB), IEI deliberated on the significance of centralized monitoring and control of COVID related information and communications, application of social media connectivity for relevant information about vaccination including obtaining vaccination certificates, application of telemedicine and online video consultation with doctors, crisis management through data availability and modelling through Artificial Intelligence and Machine Learning approach, which leads to a sound national IT structure.



**Mr B S Patel**

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## Engineers' Achievement and Role in COVID Control and Management

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**Dr M Velan**

Dr M Velan, Chairman, Environmental Engineering Division Board (ENDB), IEI demonstrated on production of zeolite and its' application to produce medical oxygen, accumulating oxygen from flue gases and stressed on meaningful engineering solutions for effective COVID-19 Management.

Dr K Gopalakrishnan, Chairman, Marine Engineering Division Board (MRDB), IEI in his address strongly advocated for a sound public health system with full-proof preparedness to face any unforeseen challenge.



**Dr K Gopalakrishnan**



**Mr Jagroop Singh**

Mr Jagroop Singh, Chairman, Mechanical Engineering Division Board (MCDB), IEI proposed construction of more low-cost home isolation units and safe homes for the underprivileged. Chairman, MCDB further stressed on uninterrupted production and supply of medical oxygen to the farthest remote point in shortest possible time.

Mr Kishore Kumar Mehrotra, Chairman, Metallurgical and Materials Engineering Division Board (MMDB) IEI in his address recommended focused activities by IEI for effective COVID-19 Management, which include; tie up with MSMEs, IITs, NITs to develop cost effective oxygen concentrators within a stated time frame; tie up with reputed industrial bodies for transportation of vaccines through cryogenic containers at the furthest vaccination points.



**Mr K K Mehrotra**



**Mr D V Pichamuthu**

Mr D V Pichamuthu, Chairman, Mining Engineering Division Board (MNDB), IEI in his address mentioned the economic slowdown and loss of employment in mining engineering sector too as the effect of pandemic and further opined to find out the solution to generate employment to compensate the situations.

Prof (Dr) Ms G Thilagavathi, Chairman, Textile Engineering Division Board (TXDB), IEI proposed that IEI should prepare a white paper with the suggestions and recommendations for effective COVID-19 Management and forward to the appropriate authority for further needful action. Chairman, TXDB in her address deliberated on virus-proof textiles with application of herbal ingredients. She stressed on development of herbal disinfectants and its application on common and protective textiles.



**Prof (Dr) Ms G Thilagavathi**



**Dr Deb Kumar Tripathy**

Dr Deb Kumar Tripathy, Chairman, Production Engineering Division Board (PRDB), IEI in his lecture, focused on more research on low cost face shields, face masks, protective body suits with adequate ventilation, user friendly and simple COVID test kits, automated surveillance and robotic applications for effective COVID-19 Management, manufacturing of ventilation units and other accessories by 3D Printing, determination of COVID variants through computational models,

maintaining integral supply chain for medicine, oxygen, vaccine etc.



**Prof (Dr) T S Kamal**

Prof (Dr) T S Kamal, Chairman, Electronics and Telecommunication Engineering Division Board (ETDB), IEI, who could not join the meeting due to poor network connection has sent his views by WhatsApp to President, IEI supported the endeavour of President and stressed on preparation of formal guidelines to be implemented under the present situation and also in future.

Mr Ram Niwas Rajpoot, Chairman, Board of Governors - Safety and Quality Forum (BOG-SQF), IEI proposed that the Centres and Fora of IEI can be operated as monitoring and control units for effective COVID-19 Management for emerging services of oxygen, supplies of medicine, supply of COVID test kits, hospitalization support etc.



**Mr Ram Niwas Rajpoot**



**Mr Rakesh Kumar Rathore**

Mr Rakesh Kumar Rathore, Chairman, National Languages Promotional Committee (NLPC), IEI opined that this is the time to felicitate the engineers, who are the front line COVID warriors and thus motivate them to serve the nation with great enthusiasm.

Dr Mylaswamy Annadurai, Chairman, Board of Governors - National Design and Research Forum (BOG-NDRF) in his address emphasized on more vaccination to combat the pandemic, exploration of post COVID opportunities, more R&D by IEI in association with industry and academia to develop and implement emergency healthcare services, which include air breathing PPE kits, mobile oxygen concentrators, application of drones for sanitization and COVID control, cleanliness drive through development of bio-toilets etc.



**Dr Mylaswamy Annadurai**

Mr Suneel Grover, Chairman, Board of Governors – National Skill Development Forum (BOG-NSDF) in his address stated that during pandemic, when a large percentage of population in our country is below the poverty line, engineering innovations and novelties to combat the crisis should be implemented and reach to the underprivileged in a faster manner with meaningful targets and dedicated timelines. He focused on knowledge sharing and capacity building by IEI through the State and Local Centres of the Institution for effective COVID-19 Management.



**Mr Suneel Grover**

Mr Ashwani Kumar Saxena, Chairman, Board of Governors - Sustainable Development Forum, (BOG-SDF) explained the dedicated role of engineering bodies during the pandemic situation including Indian Railways, Indian Air Force and stressed on enhanced manufacturing of hospital beds, development of more testing laboratories, uninterrupted drinking water and power supply to the hospitals and residences, remote monitoring of patients and more applications of bio-medical engineering to combat the COVID situation. Chairman, BOG-SDF opined that IEI may collaborate with Indian Medical Association and other peripheral bodies to explore innovative research initiatives in the field of bio-medical engineering for mankind.



**Mr Ashwani Kumar Saxena**

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# Ecosystem Restoration

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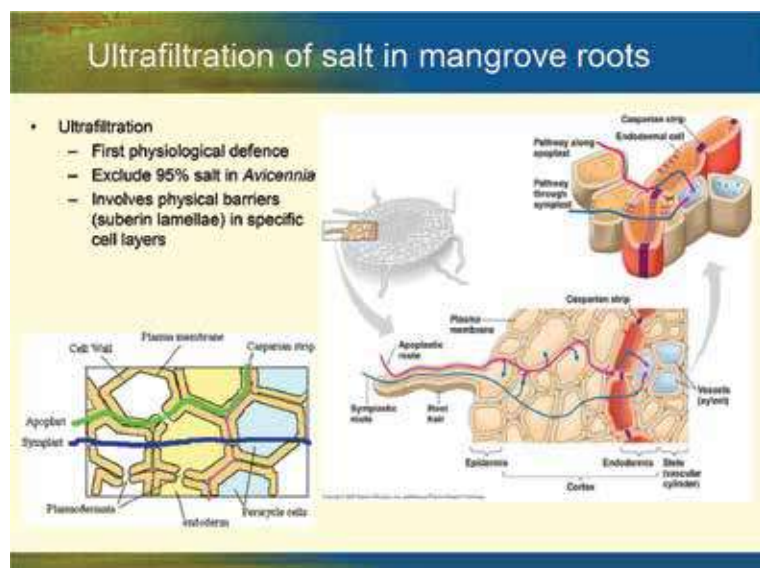


**Dr M Velan**

deforestation, fragmentation, and loss of habitat, use of nuclear power, etc. Dr Velan emphasized on the lifestyle modification to preserve and restore the ecosystem and deliberated on biodiversity & green wealth of the country, global forest covers & biodiversity hotspots, and the relevance of UN Sustainable Development Goals with conservation of ecosystems. Dr Velan mentioned different aspects of ecological restoration, rehabilitation

by means of replacement of degraded ecosystem and reclamation, which includes series of activities capable of restoring the biophysical capacity of the ecosystem. He also explained active and passive restoration, planning and strategic initiatives for restoration, remediation approach for ecosystem restoration, benefits of restoration, etc.

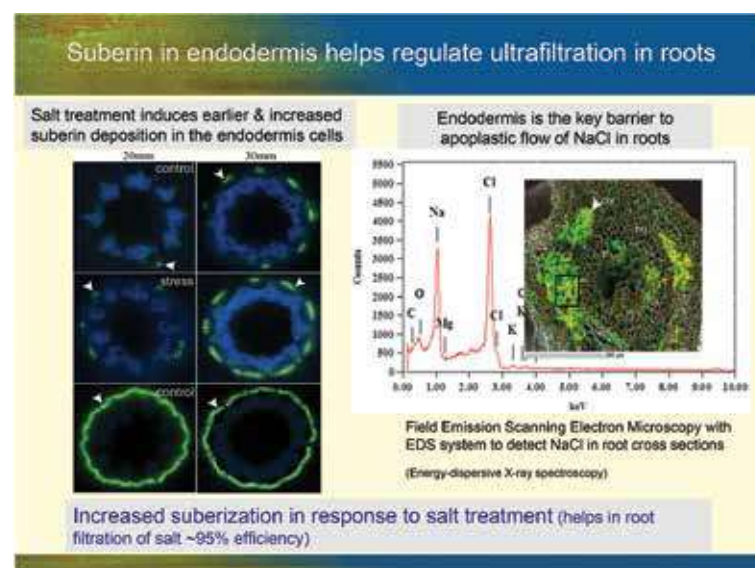
Guest of Honour on the occasion, Prof (Dr) E V Ramasamy, School of Environmental Sciences, Mahatma Gandhi University, Kottayam, Kerala presented his lecture on the topic 'Plastics and Microplastics a threat to the Ocean Ecosystem: Special Reference to Arctic Studies'. He started his presentation with the significance of ecosystem restoration and mentioned that since the human race is dependent on nature, specifically on ecosystem, the need of the hour is to bring back the ecosystem to its original form by adopting sustainable means like plantation, cleaning and preservation of river banks and also providing space and time for natural recovery. The speaker in his lecture highlighted that to achieve UN Sustainable Development Goals, reviving the ecosystem is the principal criteria and stated that for a complex and highly varied ecosystem, restoration process is quite time-consuming, which requires objective-oriented planning and patient implementation. Dr Ramasamy focused on different sustainable ecosystem initiatives by maintaining rich biodiversity and application of renewable energy resources,



cleaning of plastic debris on regular basis, promoting environmental awareness programs, reforestation, eco-restoration of flood-affected degraded riparian forest ecosystems and braid bars in rivers for ecological sustainability and also explained mapping of spatial distribution of rock quarries. He further deliberated on the challenges of the ocean ecosystem and highlighted the planetary crisis, namely nature and biodiversity loss, climate change due to increased generation and accumulation of pollutants and wastes including plastic and toxic chemicals. Dr Ramasamy strongly advocated for the conservation of the marine ecosystem, which consists of the blue world of the ocean, and described it as one of the last remaining wildernesses on the planet earth. He stated that the cumulative hazards and direct impacts of marine plastics contributed to the enormous loss in marine ecosystem and the arctic's relative remoteness has to be protected from dumped plastic waste. He opined that plastics should be recycled or

incinerated rather than disposing single used plastic since global production and use of plastic is ever increasing. The rate of consumption of plastics proportionately increases the generation of plastic wastes, which persists in the environment for an infinitely long period of time, increases the degree of pollution and destroy marine life as major part of plastics waste are dumped in the ocean through rivers, streams, and runoffs, Dr Ramasamy elucidated. He explained that due to high mobility, plastic practically permeated all over the global marine environment including the polar regions, mid-ocean islands, and deep sea. Further, Dr Ramasamy added, that due to their specific hydrology, the large oceanic gyres, colloquially termed as 'garbage patches', are the hot spots of plastic pollution, which accumulate buoyant plastic debris. He also highlighted that the Great Pacific Garbage Patch, also known as Pacific Trash Vortex refers to the gyre of marine debris particles in the Central North Pacific Ocean, which is characterized by the exceptionally high relative concentration of pelagic plastics, chemical sludge, and other debris, trapped by the currents of North Pacific Gyre. He explained the properties of microplastics and its impacts on pollution and stated that plastics debris split due to sunlight, mechanical actions of wind, waves, different biological means into tiny particles, named as secondary microplastics, that differs from primary microplastics, which are manufactured as microbeads, pellets, principally used in personal care products and air blast media. Dr Ramasamy concluded with a strong recommendation on the prevention of single-use plastics, prevention of reaching plastic debris to the water bodies, and follows 3R principle for ecosystem restoration, namely Reduce, Reuse and Recycle.

Chief Guest of the function, Prof (Dr) Prakash Kumar, Department of Biological Sciences, National University of Singapore, Singapore delivered his lecture on the topic 'Study on Mangroves towards Ecobalance/Sustainable Ecosystem'. Prof Kumar, outlined the characteristics, properties, and benefits of mangrove and highlighted the special adaptation property of mangrove to survive in the saline environment and the ability to perform multiple ecological functions to protect the coastal land and stated that the mangrove forest is a constant source of timbers to produce charcoals. He explained the natural propagation of mangroves by means of fruits and propagules, which can float and transported to a long distance through water currents. Prof Kumar further discussed on soil salinity and mentioned that a major portion of arable land faces salinity problems, which has an impact on crop production and growth. Chief Guest also opined for the development of salt stress-tolerant plants and crop varieties to ensure food security and further explained the genetic engineering roadmap to generating salt stress-tolerant plants, generate process to confer salinity tolerance to the crop plants by means of Transcriptomics, Genomics, Metabolomics, Phenomics, and



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# Exploration of Partially Levitated Transport Mode using Buoyancy Phenomenon of Two Different Fluids

The Marine Engineering Division of the Institution organized Technical Webinar on the theme **Exploration of Partially Levitated Transport Mode using Buoyancy Phenomenon of Two Different Fluids** on 8 April, 2021. On the occasion, Dr M Jaikumar, Head and Associate Professor, Department of Automobile Engineering, Hindustan Institute of Technology and Science, Chennai and Dr S Jaiganesh Subbaian, Group Manager, Predevelopment PV R&D (APMEA), Global R&D Centre-Asia, Apollo Tyres Limited, Chennai graced the event as Panelists and Mr S Arulanantha Samy, Assistant Professor, Department of Automobile Engineering, Hindustan Institute of Technology and Science, Chennai was the Moderator during the session. Prof (Dr) Swapan Bhaumik, Chairman, Committee for Advancement in Technology and Engineering (CATE), IEI and Mr Suneel Grover, Chairman, Board of Governors-National Skill Development Forum (BOG-NSDF) graced the function with their virtual presence. Dr Nilanjan Sengupta, Director (Technical), IEI in his opening remarks welcomed the Panelists, Moderator



Dr M Jaikumar

of the session, dignitaries from IEI and the august audience. Prof (Dr) Swapan Bhaumik, Chairman, CATE in his address briefed about the significance of the theme.

Panelist during the session, Dr M Jaikumar initiated his address with development in different modes of transportation with associated cost implications and mentioned higher operational efficiency as well as high cost involvement in transportation by means of Magnetic Levitation, Hyperloop and Maglev trains. Dr Jaikumar opined that sustainable transportation is the need of the hour to reduce climate change, enhance energy security and minimize pollution. He felt that from the perspective of economic rationality, during transportation, fossil fuels be substituted with electrification of urban and inter-urban transport. Dr Jaikumar, in his address advocated for introduction of new transport mechanisms to enhance prosperity and reduce unnecessary consumption of materials and resources. Dr Jaikumar further explained water transportation systems through gravity perspectives and buoyancy effects, application of buoyant force on water transport, functional properties of static and dynamic fluids, floating position of ships with positive, negative and neutral buoyant variants and highlighted different aspects of ocean wave energy and power conversion technology, function of wave energy converters and different wave energy devices. Dr Jaikumar further explained the working principle of oscillating water column waves energy converter with compressed air and higher flow potential, transition visibility and proposed mechanism for new mode of transportation by means of two different fluids with different properties, when air pressure is applied on open bottom air vessel and water pressure is applied on closed bottom air vessel, which results movement of the water vehicle on water surface based on rolling support and consuming less power. The speaker concluded with greater emphasis on cost effective water transport through the rivers, canals and artificial waterways.

Panelist during the session, Dr S Jaiganesh Subbaian deliberated on the topic 'Transition to Sustainable Transportation'. In his lecture, Dr Subbaian explained the importance of transportation through different modes, significance of

advanced mode of transportation, cost variants of transportation etc. He further deliberated on energy storage technologies, applications of AI and IoT in transportation and advanced automobiles, which include electric vehicles, connected vehicles, autonomous driving, application of Blockchain in automotive technology etc. Dr Subbaian deliberated on global energy crisis during pandemic and mentioned that India is advancing with high score in Energy Transition Index 2020. He further stated the Government of India initiatives to promote and advance renewable



Dr S Jaiganesh Subbaian

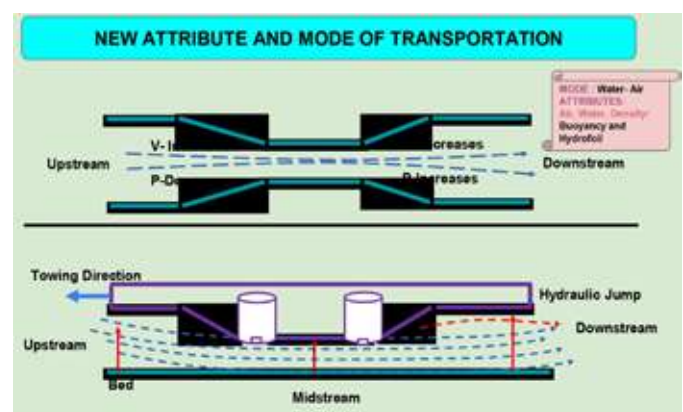
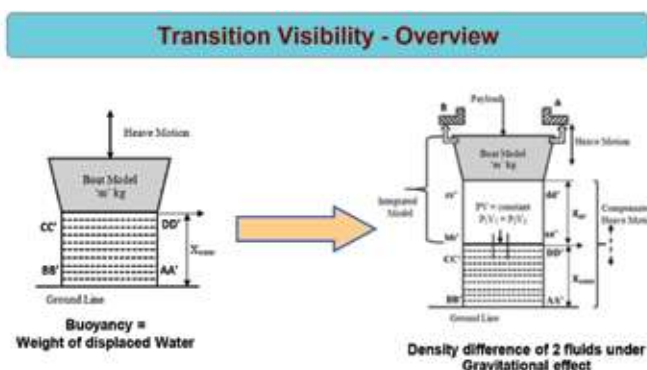
energy solutions, which include renewable energy expansion programme, consumer engagement and investment, innovation and infrastructure and proposed the new mode of transportation, where the renewable energy be applied directly instead of conversion to electrical energy. Dr Subbaian compared and analyzed different modes of transportation, energy utilization and subsequent energy loss and advocated for the Magnetic Levitation based transport. The speaker recommended unique mode of waterways transportation applying Bernoulli's principle, when from upstream to downstream flow, if there is a reduction in area, the energy flow is constant at entry and exit point. When water flows through that restricted cross section, its velocity increases and pressure decreases. Applying this principle, the water vessels and barges float on water channels with inverted air vessels and partially submerged due to its self weight, Dr Subbaian demonstrates. Now, in static condition, those inverted air vessels, to some extent unstable and tilted and in dynamic condition of the water vehicles, the instability get reduced and the inverted air vessels results reduction in gravitational force, whereas the compressed air water driven mechanism further reduces the frictional resistance too, which results enhanced accelerating force to move the unit forward with higher velocity with continuous wave generation throughout the entire length of the channel, he explained. The speaker also highlighted the phenomenon that the forward movement of the vessel with air vessels results a hydraulic jump, which neutralize in course of time and the water vehicle moves forward in the towing direction. Dr Subbaian deliberated on the relative efficiencies of prime movers for partially levitated transportation and its advantages, which include cost effectiveness, limited use of water, high fuel efficiency etc.



Mr S Arulanantha Samy

Moderator of the session, Mr S Arulanantha Samy summed up the deliberations and stressed on the issues and challenges of sustainable transportation, cost effective waterways transportation, guidelines and control mechanism, configuration of water channels and air vessels etc. A question-answer session was organized at the end of the session, when the speakers deliberated on different academic and professional queries. Dr Nilanjan Sengupta, Director (Technical), IEI proposed the

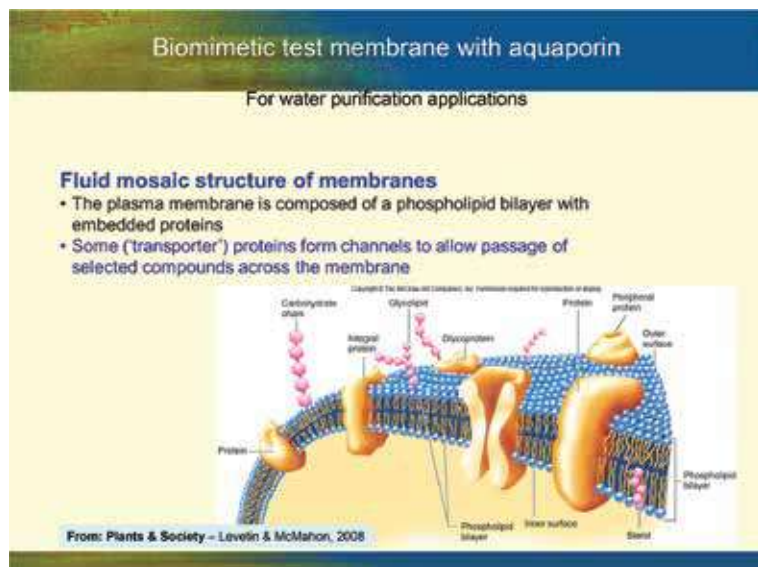
vote of thanks.



## Ecosystem Restoration

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Proteomics approaches, which lead to the identification of key genes, responsible for salinity tolerance and utilizing that knowledge, development of salinity tolerant crops. While comparing salt-sensitive and salt-tolerant plants, Prof Kumar explained adaptations in mangrove to desalinate water with salt glands on mangrove leaves and roots, ultrafiltration of salt in mangrove



roots, the function of suberin in endodermis for regulating ultrafiltration in Avicennia roots, experimental design for differential gene expression using transcriptomics, function based classification of annotated, differentially expressed genes from root transcriptome, different aspects of suberin biosynthesis and so on. The speaker also explained the properties of

transgenic rice plants with increased salt tolerance and suberin deposition. Prof Kumar also deliberated on fluid mosaic structure of cell membrane and biomimetic membranes with aquaporins that facilitate passing of water molecules across the channels and the performance of biomimetic test membranes with mangrove aquaporin with facts and figures. Chief Guest concluded his speech with an emphasis on reducing the effect of marine debris on mangrove shore, coastal cleanup strategy to restore mangroves, reduction of annual marine trash load, more wetland reserve awareness programs, and restoration of small rivers and canals for flood control.

Prof (Dr) Raman Saravanane, Chairman, Puducherry State Centre, and Member, ENDB, IEI coordinated the knowledge sharing session. Mr Jasmil Singh, Chairman, Karnataka State Centre, and Member, ENDB, IEI in his address mentioned the role of the world in ecosystem restoration. Dr G Rameshwar Rao, Chairman, Telangana State Centre, Director, Engineering Staff College of India (ESCI), Hyderabad, and Member, ENDB, IEI stressed the restoration of water bodies, adherence to the pollution control norms and mentioned about the academic initiatives by ESCI regarding Environmental Management curriculum. Mr Suneel Grover, Chairman, BOG-NSDF in his address focused on environmental propagation, conservation, protection, and use and strongly advocated for complete eradication of plastic use all over. Mr Grover further stressed desalination and conservation of water, disruptive innovations to implement technologies, and inspirational leadership to inculcate a sustainable environment and environment-appropriate behavior. Mr Sanjay Sen, Member, ENDB, IEI in his message emphasized soil conservation and controlling cyclone by plantation of mangrove trees in the coastal area. Prof Saravanane summed up the proceedings and placed the concluding remarks. Dr Nilanjan Sengupta, Director (Technical) proposed the vote of thanks.

## Engineers' Achievement and Role in COVID Control and Management

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Dr G Rameshwar Rao

Dr G Rameshwar Rao, Director, Engineering Staff College of India (ESCI), Hyderabad, in his address stressed on the revamp of public health system, greater attention to sanitization, initiatives to resume normal mode of operations, development of reusable textiles for COVID management, initiatives for more vaccinations, organizing more technical activities in association with industry and academia to build awareness to defeat pandemic

from every nook and corner etc. Director, ESCI opined that this is the time to invite project proposals on relevant subjects from academic institutions, promote start ups and incubation centres to initiate more pandemic related research activities. He has also informed everybody that National Science & Technology Entrepreneurship Development Board (NSTEDB) launched a new initiative, namely, CAWACH (Centre for Augmenting War on Covid-19 Health Crisis) in March 2020. Total 51 startups with Covid-19, market-ready solutions have been supported under five thematic areas i.e., Diagnostics, Informatics, Sterilizers & Disinfectants, PPE, Ventilator & Respiratory Care devices. Out of these 51 startups, more than 70% have already commercialized their products, he added.

Dr H R P Yadav, Secretary and Director General, IEI while summing up the deliberations, proposed that Corporate Members, working with different



Dr H R P Yadav

organizations in the area of COVID-19 Management

be identified and a notification may be sent to them. Dr Yadav, in his address endorsed the views of the speakers and opined that IEI should collaborate with Indian Council of Medical Research (ICMR), New Delhi, Centre for Biomedical Engineering, IIT Delhi to explore more pandemic related research initiatives. SDG, IEI advocated for more R&D and organising technical webinars on manufacturing of

medical appliances. Er Narendra Singh, President, IEI in his concluding address endorsed the views of Vice Presidents, IEI, Chairman, CATE, IEI, Chairmen of Division Boards, Fora, Organ, Committees of IEI and focused on greater exploration in COVID-19 Management. He also suggested that a book on Achievements of Engineers and Doctors in fighting the COVID-19 pandemic may be published by IEI.

Prof (Dr) Swapan Bhaumik, Chairman, CATE, IEI in his concluding remarks placed his optimistic view for enhanced contribution by IEI for effective COVID-19 Management.

Dr H R P Yadav, Secretary & Director General, IEI proposed the vote of thanks.

Dr Nilanjan Sengupta, Director (Technical), IEI moderated over the session.



## Smart Grid using Smart Meters and Smart Phone

**Meerut Local Centre** of the Institution organized Technical Webinar on the theme **Smart Grid using Smart Meters and Smart Phone** on 18 April 2021 under the aegis of Electrical Engineering Division Board, (ELDB), IEI. Mr Manish Kumar Tiwari, General Manager (Smart Grid), Powergrid Corporation of India Limited, and Mr V C Gupta, Former Superintending Engineer, UP Power Corporation Limited graced the event as Panelists. Ms Vineeta Agarwal, Senior General Manager (Smart Grid), Powergrid Corporation of India Limited couldn't attend the program as Panelist due to COVID 19 illness. Mr R P Agarwal, Former Executive Engineer, UP State Electricity Board was the Moderator of the webinar session.



**Mr Manish Kumar Tiwari**

Panelist, Mr Manish Kumar Tiwari, General Manager (Smart Grid), Powergrid Corporation of India Limited deliberated his lecture on the topic 'Smart Grid'. The speaker initiated his presentation with the evolution of grids and explained smart grid as the integration of information and communication technologies with power infrastructure to induce intelligence with the objective to enhance efficiency, reliability, asset utilization, and consumer experience. Mr Tiwari further explained applications of smart meters and sensors with access to real-time data, control command and analytics and added significant features of smart grid, which include flexibility in generation, improved resilience, better monitoring of large interconnected networks, flexibility in transmission and distribution system, better forecasting tools for loads and renewable, etc. The speaker, in his lecture, explained further, Synchrophasor technology including Phasor Technology and Phasor Measurement Units (PMU), Analytics with PMU data including line parameter estimation, online vulnerability analysis of distance relays, Linear State Estimator, CT/CVT calibration, and implementation of control schemes to improve system security based on angular, voltage and frequency stability. Mr Tiwari also highlighted significant features of digital substations, renewable energy management with the installation of forecasting tools of renewable energy generation, real-time tracking of renewable energy generation from renewable energy sources, and scheduling solutions. He further deliberated on energy storage applications, smart grid in distribution processes by means of implementation of Advanced Metering infrastructure, Peak Load Management, Outage Management System, and Power Quality Management. He also highlighted the features of distributed generation, net-metering, and grid integration. The speaker concluded his presentation by outlining the principle and applications of Micro Grid, the concept of Virtual Power Plants, Smart Grid Knowledge Centre, etc.

Mr Manish Kumar Tiwari further presented the lecture on the topic 'Energy Storage for Grid Application' on behalf of Ms Vinita Agarwal, Senior General Manager (Smart Grid), Powergrid Corporation of India Limited. During the deliberation, he briefed about Indian power scenario and deliberated on

on the drivers for energy storage, application of energy storage including frequency regulation, renewable energy capacity firming, voltage support, etc. He discussed the functional aspects of frequency regulation, Feeder Load curve, Renewable Energy Capacity Firming, Transmission Upgrade Deferral, Grid-Scale Energy Storage technologies, pumped hydro storage compressed air energy, function of Flywheel for frequency regulation, Green Hydrogen renewables, battery energy storage systems, etc. The speaker also briefed about the ongoing Powergrid projects and concluded with an emphasis on more cost competitiveness, safety aspects, more provision for energy storage and utilization, etc.

Panelist, Mr V C Gupta, Former Superintending Engineer, UP Power Corporation Limited deliberated his presentation on the topic 'Smart Meter and Smart Phone'. In his presentation, Mr Gupta discussed on the development of energy meters, working principle of electromechanical meters, analog electronic energy meters, smart energy meters with advanced metering technology, and intelligent meters. He also mentioned that the smart metering system applies the advanced metering infrastructure technology for better performance. The speaker explained the application of modems in smart meters to facilitate the communication systems and added that the significant advantage of smart metering is the complete avoidance of tampering of the same. The speaker explained the working principle of Availability Based Tariff (ABT) Metering, different components, installation procedure, and salient features of ABT Metering. Mr Gupta explained further the connectivity of the system controller module and server, output interface, communication to the server, and interpretation of information through ABT Software Analyzer, generation of load profile, and ABT report. He also highlighted in his presentation, recent advances in communication networks and the functioning of the LnTSCMTM System Controller module.



**Mr V C Gupta**

Mr Gupta, in the next part of his presentation, deliberated at a length about the monitoring and control of smart energy meters by means of smart phones, which includes gateway control, resource control, and measurement control. He also explained the features of the mobile-user interface with the provision to overview the power consumption status of electrical appliances, provision to access real-time metering data, user interface measuring the power consumption of a device, and concluded with more monitoring and control of energy consumption through smart devices. An interactive question-answer session was organized at the end of the programme. Earlier, Mr Rajneesh Kumar, Chairman, Meerut Local Centre, IEI welcomed the Panelists, Moderator, IEI dignitaries, and participants. Mr P Rajamani, Chairman, Electrical Engineering Division Board and Council Member, IEI appreciated the effort of the host Centre in organizing the event in a befitting manner. Mr Mohan Lal Jain, Honorary Secretary, Meerut Local Centre proposed the vote of thanks.



**Mr R P Agarwal**

makeshift home isolation units, safe homes, quarantine centres with basic treatment facilities. The public health engineers all over the country are operating continuously on the sanitization programmes, cleanliness drives and thus provide immense support and back up to the municipal bodies and corporations. Engineers across the country have been on their toes to ensure, that the country is properly equipped in its' battle against COVID-19. I request all State and Local Centres of the Institution to come forward and to be a part of this battle against COVID-19 pandemic, organize more technical activities regarding the role of engineering fraternity to combat the pandemic, and thus motivate and encourage them to move towards a new horizon.

Jay Hind

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

*Contd. from page 1*

The long-lasting pandemic has resulted remote working as a standard operating procedure, where a group of engineers with their expertise are continuously engaged to provide remote work management with secured connectivity support, remote monitoring, data backup, etc. In this unforeseen situation, when online learning is the most significant learning process for the students, academicians, and also for the professionals, who are keen to strengthen their knowledge base and skills; engineers are dedicated to provide different online learning platforms, faculty development programmes, operating guidelines, updated online resources, and software, to make online learning more interesting, object-oriented, and attractive.

To compensate the acute shortage of beds and isolation units for the patients, another team of engineers are working relentlessly to produce

# IEI Celebrates

## World Telecommunication and Information Society Day

# 2021

**Theme: Accelerating Digital Transformation in Challenging Times**

**World Telecommunication and Information Society Day was celebrated by the Centres of the Institution all over the country on May 17, 2021 through Webinars. Brief Reports as received from various Centres are given hereunder.**

### STATE CENTRES

#### Gujarat

Gujarat State Centre, IEI observed World Telecommunication & Information Society Day on 17 May 2021 jointly with Computer Society of India Ahmedabad Chapter, Sankalchand Patel University, Visnagar and The Institution of Electronics & Telecommunication Engineers, Ahmedabad through digital mode. Chief Guest, Mr B S Patel, Council Member, IEI and Director & CEO, Yudiz Solution Private Limited addressed the virtual audience and briefed the significance of the theme related to the current pandemic situation. He mentioned that information collected can be shared at the common platform with relevant data for larger use of society and stressed enhanced cooperation between governments, business communities, UN bodies, civil society and other stakeholders in this challenging situation and recommended to strengthen and reinforce the importance of developing digital strategies and other technology-driven initiatives as part of digital transformation. Keynote speaker of the session, Mr Sanjay Sawhney, Senior Project Manager, Shaw Communication, Canada deliberated regarding the evaluation of wireless technology in India. Keynote speaker, Ms Nagini Madhuranthakam, Director, Vision India (in absentia) conveyed her message. Mr Niraj Shah, Chairman, Computer Society of India, Ahmedabad Chapter, Mr R M Makwana, Chairman, The Institution of Electronics and Telecommunication Engineers, Ahmedabad Chapter and Prof (Dr) D J Shah, Director, Technical Courses, Sankalchand Patel College of Engineering, Visnagar were present during the function and addressed the audience. Earlier Mr Hiro Udhavdas Kalyani, Chairman, Gujarat State Centre and Council Member, IEI delivered the welcome address.

#### Jammu & Kashmir

Jammu & Kashmir State Centre, IEI observed World Telecommunication and Information Society Day on 17 May 2021 and organised a technical webinar in collaboration with the National Institute of Disaster Management (NIDM), Ministry of Home Affairs, Government of India, Department of Telecom, J&K LSA, Ministry of Communications, Government of India, SSM College of Engineering & Technology, Parihaspora, Pattan, National Informatics Centre-J&K and State Emergency Operation Centre, Srinagar. Chief Guest, Dr Kailash Chandra Panday, Senior Deputy Director-General, Department of Telecom, Ministry of Communications, Government of India in his address, stated that digital technology plays the most important role in achieving UN Sustainable Development Goals and digital transformation has created a value system and improved efficiency, which helped in creating transparency and capacity development. He mentioned that a digitally empowered society can bring socio-economic transformation in India.

Keynote speaker on the occasion, Major General Manoj Kumar Bindal, Executive Director, National Institute of Disaster Management stated that, due to the challenging situation, the pandemic has accelerated the digital transformation process which results improved efficiency. He said that the protocols and procedures will keep changing and digital transformation will

usher in a culture of transparency, by enhancing efficiency and effectiveness. He also added that the use of technology has helped improve the quality of life and human well-being and is being used by different stakeholders, for achieving the defined UN Sustainable Development Goals. He stated that the global perspective has brought all the stakeholders together for effective use of technology to highlight the strengths and weaknesses, identification of pertinent the issues and raise awareness. Er Narendra Singh, President, IEI conveyed his message for the success of the Webinar. Mr Radhey Shyam Parmar, Deputy Director-General, Dept of Telecom, J&K LSA; Mr Mohammed Saleem Khan, Scientist F, Additional State Informatics Officer-J&K; Mr Syed Irfan Yaqoob, Assistant Professor, SSM College of Engineering and Technology, Parihaspora and Mr Sandeep Baruah, Scientist F, Vigyan Prasar, Ministry of Science and Technology, Government of India were also present and addressed the audience. Mr Aamir Ali Mir, Chairman, Jammu & Kashmir State Centre and Council Member, IEI welcomed all and coordinated the event along with Dr Amir A Khan, Faculty NIDM. The programme was moderated by Ms M Aaquib Sultana Waheed Deva, Honorary Secretary, Jammu& Kashmir State Centre.

#### Jharkhand

Jharkhand State Centre, IEI observed World Telecommunication & Information Society Day on 17 May 2021 and organised a technical webinar on the theme. Mr Umesh Prasad Sah, General Manager, Business Area, BSNL, Ranchi graced the function as Chief Guest and in his address stressed the importance of digitization of businesses. The Keynote address was delivered by Mr Vishal H Shah, Assistant Professor, Department of Electronics and Communication Engineering, BIT Mesra, Ranchi. In his deliberation, Mr Shah deliberated on different stages of Digital Transformation and elaborated on the role of digital transformation during the current pandemic. Ms Sumaiyya Khan, Manager – HR, M/s Milli-Amps Energy Solutions, Mumbai was the Moderator of the programme. Earlier, the welcome address was delivered by Mr Siyaranjan Kumar Singh, Chairman, Jharkhand State Centre and Council Member, IEI. Mr Jitendra Kumar, Honorary Secretary, Jharkhand State Centre proposed the vote of thanks.

#### Punjab & Chandigarh

Punjab & Chandigarh State Centre, IEI observed World Telecommunication and Information Society Day through online mode on 17 May, 2021 in association with the IEEE Students' Chapter, Baba Banda Singh Bahadur Engineering College, Fatehgarh Sahib. Prof Amod Kumar, Former Chief Scientist, CSIR-Central Scientific Instruments Organisation, Chandigarh was the Chief Guest and Dr Jagpal Singh Ubhi, Professor, Electronics and Communication Engineering Department, Sant Longowal Institute of Engineering and Technology, Longowal was the Keynote Speaker of the event. Prof Amod Kumar, in his address focused on the impact of ICT in healthcare services during the pandemic times, when the quality of patient care and patient data protection and security increase, whereas the operating



and administrative overhead reduced. He mentioned the role of digital platforms to combat infectious diseases and, also to build a more resilient society during this period of crisis. Dr Jagpal Singh Ubhi in his lecture mentioned the role of information and communication technologies (ICTs) in providing necessary support to the society from different perspectives. He also mentioned that the rollout of 5G technology would be a catalyst to the digital revolution and added the underlying challenges to implement 5G services. Earlier, Mr Sukhviri Singh Mundi, Chairman, Punjab & Chandigarh State Centre and Council Member, IEI welcomed the guests and participants and told that the celebration of World Telecommunications day aims for making information and communication easily accessible to people living in remote parts and rural areas of the world and also bridge the gap in society, economies and the digital divide.

### Uttar Pradesh

Uttar Pradesh State Centre, IEI observed World Telecommunication & Information Society Day on 17 May 2021 in association with Babu Banarasi Das Northern India Institute of Technology (BBDNIIT), Lucknow, and organised a technical webinar on the theme of the day. On the occasion, Chief Guest, Prof (Dr) V K Singh, Director (Engineering), Babu Banarasi Das Northern India Institute of Technology, Lucknow emphasized the importance of communication and information technology in the economic and social development of the country. Keynote Speaker, Prof (Dr) Praveen Shukla, Head of IT Department, BBDNIIT, Lucknow discussed in detail the use of telecommunication and artificial intelligence in health care sector and the role of drones and robots in dealing with Covid. He further highlighted the importance of telemedicine with special reference to Covid-19. Mr V B Singh, Chairman, Civil Engineering Division Board and Council Member, IEI moderated over the session and discussed in detail the contribution of Information Technology and Artificial Intelligence in dealing with Corona menace. Earlier, Mr Rajesh Kumar Trivedi, Chairman, Uttar Pradesh State Centre and Council Member, IEI welcomed all the participants of the webinar. At the end of the function, Mr Prabhat Kiran Chaurasia, Honorary Secretary, Uttar Pradesh State Centre, proposed the vote of thanks.

### Rajasthan

Rajasthan State Centre, IEI observed World Telecommunication & Information Society Day on 17 May 2021 and organised a technical webinar on the theme. Panellist, Mr Gunjan Saxena, Deputy Director-General, Department of Telecommunication, Rajasthan delivered lecture on the theme very efficiently and explores different avenues of digital transformation, 5G standards, Spectrum-3GPP 5G, New Radio two frequency bands, IoT and Big Data. Earlier, Mr Sajjan Singh Yadav, Chairman, Rajasthan State Centre and Council Member, IEI welcomed the audience and Mr Mahendra Kumar Chauhan, Honorary Secretary, Rajasthan State Centre, IEI conveyed the vote of thanks at the end of the session.

## LOCAL CENTRES

### Ahmednagar

Ahmednagar Local Centre, IEI observed World Telecommunication and Information Society Day on 17 May 2021 in association with Rayat Shikshan Sanstha's Karmaveer Bhaurao Patil College of Engineering, Satara and organized a technical webinar on the theme. Keynote Speaker, Prof (Dr) Bhalchandra B Godbole, Former Dean, Academics, KBP College of Engineering, Satara delivered keynote address on the theme. During deliberation, Prof Godbole explained various forms of digitalization, applications of digitalization in various fields, including industries, information technology, communications, etc. He mentioned that with the advent of high-speed technology at low cost, the means of communication has massively changed which added values to the business and customer relations. Earlier, Mr Sangam Sinha, Chairman, Ahmednagar Local Centre, IEI delivered the welcome address and highlighted the advantages and benefits of automation and digital revolution.

### Bareilly

Bareilly Local Centre, IEI observed World Telecommunication and Information Society Day on 17 May 2021 in association with Rajshree Institute of Management & Technology, Bareilly and organized a technical webinar on the theme. Panellists, Ms Tulika Agarwal, Academic Advisor and Dr Pankaj Sharma, Director, Rajshree Institute of Management & Technology, Bareilly delivered lectures on the theme of the day and explained that information and communication technologies emerged as the backbone to help humanity deal with any crisis. The event started with the welcome address delivered by Mr Sudhir Kumar Gupta, Chairman, Bareilly Local Centre. Mr L S Maurya, Mr B S Bajwa, Mr K B Agrawal, Mr S C Sundrani and Dr Raveesh Agarwal also shared their views and experience on the topic. Mr Mahendrakumar. Agarwal, Honorary Secretary, Bareilly Local Centre proposed the vote of thanks.

### Bathinda

Bathinda Local Centre, IEI observed World Telecommunication and Information Society Day on 17 May 2021 in collaboration with Yadavindra College of Engineering, Talwandi Sabo, Bathinda and organized a technical webinar on the theme. Chief Guest of the event, Prof (Dr) T S Kamal, Council Member, IEI deliberated on the theme and mentioned the need to move forward with the goals set by the International Telecommunication Union (ITU) for the year 2030. On the occasion, Mr Sukhviri Singh Mundi, Chairman, Punjab & Chandigarh State Centre and Council Member, IEI was the Guest of Honour. Keynote Speaker on the occasion, Ms Manpreet Kaur, Assistant Professor, Department of Electronics and Communication Engineering, Yadavindra College of Engineering delivered lecture on the theme. Earlier, Dr Jagtar Singh, Chairman, Bathinda Local Centre and Council Member, IEI welcomed the members and distinguished Guests. Mr J S Deol, Honorary Secretary, Bathinda Local Centre, IEI proposed the vote of thanks.

### Belapur

World Telecommunication & Information Society Day was observed by Belapur Local Centre of the Institution on 17 May 2021 through online mode. Speaker of the event, Mr Biswa Das, R&D Team Manager, Process Automation Digital, ABB delivered lecture on the theme of the day and explained the present and future prospects of the digital transformation from the industrial point of view. He also highlighted the upcoming opportunities in this field. The program started with welcome address delivered by Dr Mohan Balwant. Dagaonkar, Council Member, IEI. Vote of thanks was delivered by Dr Samir Chandrakant Nimkar, Honorary Secretary, Belapur Local Centre.

### Bokaro Steel City

Bokaro Steel City Local Centre, IEI observed world Telecommunication and Information Society Day on 17 May 2021 and organised a technical webinar on the theme. Chief Guest of the event, Mr B K Sartepe, Chief General Manager, C A & Communication, SAIL, Bokaro Steel Plant inaugurated the webinar. In his address, he spoke about the transformation of telecommunication system for the past decades, and the tremendous accelerated progress of the fifth Generation Mobile Network and stated that engineers should learn about the applications of digital transformation to control manpower, maintenance and enhance productivity. Keynote Speaker, Mr N P Srivastava, General Manager, Environment, SAIL, Bokaro Steel Plant spoke about the importance of telecommunication in the present pandemic situation which has gone up manifold. Earlier, Mr Yogendra Nath Singh, Chairman, Bokaro Steel City Local Centre, IEI welcomed dignitaries and members joining the webinar and stated about the importance of celebration of the day and urged the engineers to extend the digital facilities to the remote places of villages worldwide to achieve UN Sustainable Development Goal 2030. Mr Jayant Kumar, Deputy Manager, Telecommunication Department, SAIL, Bokaro Steel Plant presented paper on the topic '5<sup>th</sup> Generation of Mobile Technologies' and Mr Y S N Reddy, Manager, Telecommunication, SAIL, Bokaro Steel Plant on the topic 'Driving digital transformation through Artificial Intelligence'.

## Faridabad

Faridabad Local Centre, IEI observed World Telecommunication & Information Society Day on 15 May 2021 through the digital platform. Eminent Panellists namely Dr Charu Virmani, Associate Professor, Department of Computer Science Engineering, Manav Rachna International Institute of Research and Studies (MRIIRS) Faridabad; Mr Shailender Kumar, Group Manager, Broadcast Operations, Zee Entertainment Enterprise Limited and Dr Shruti Vashist, HoD & Dean Students Welfare, Department of Electronics & Communication Engineering, Manav Rachna University, Faridabad graced the event with their extremely enlightening and informative deliberations. Dr Charu Virmani, in her lecture, explained the functional aspects of routed optical networking. Mr Shailender Kumar presented his lecture on the topic 'Evolution in Technologies'. Dr Shruti Vashist presented her lecture on the topic 'Digital Transformation'. Dr Rajender Kumar, Associate Professor, Manav Rachna International Institute of Research and Studies moderated the session. Mr Sandeep Handa, Chairman, Faridabad Local Centre, IEI in his opening address stated that During the COVID-19 pandemic, information and communication technologies (ICTs) played an important role in the continued functioning of societies and minimize inequalities between and within countries and the pandemic also highlighted the need for accelerating digital transformation. Mr Kuldip Raj Gupta, Honorary Secretary, Faridabad Local Centre concluded the session with vote of thanks.

## Gorakhpur

Gorakhpur Local Centre, IEI observed World Telecommunication & Information Society Day on 22 May 2021 and organised a technical webinar on the theme of the day. Mr V B Singh, Council Member and Chairman, Civil Engineering Division Board, IEI, Mr Rajesh Kumar Trivedi, Council Member & Chairman, Uttar Pradesh State Centre, IEI and Mr Prabhat Kiran Chaurasia, Honorary Secretary, Uttar Pradesh State Centre, IEI graced the occasion with their august presence. Prof Sanjay Kumar Soni, Department of Electronics & Communication Engineering, Madan Mohan Malviya University of Technology, (MMMUT), Gorakhpur & Ms Deepti Ojha, Head of Department, Department of Electronics & Communication Engineering, Institute of Technology and Management (ITM), GIDA, Gorakhpur were present on the occasion as speakers. Prof. Soni, in his address, briefed about the history of telecommunication and the generation of Cellular Technology. Prof Soni further explained role of IoT, IoMT and Artificial Intelligence and explained the application of drone in the agriculture sector. Ms Ojha deliberated on cyber security, MATLAB and image processing and the achievement of the digital world. The speaker mentioned that building online presence with the right mix of technology, content and marketing is essential to survive in the new world. Earlier, Mr Dharendra Chaturvedi, Chairman, Gorakhpur Local Centre, IEI welcomed the speakers and audience. Mr Ved Prakash Gupta, Honorary Secretary, Gorakhpur Local Centre proposed the vote of thanks.

## Jamshedpur

Jamshedpur Local Centre observed World Telecommunication and Information Society Day on 17 May 2021 and organised a technical webinar on the theme. Keynote Speaker on the occasion, Mr Jeet Banerjee, Assistant Professor, Department of Electronics and Communication Engineering, School of Engineering and Technology, Adamas University, Kolkata covered various aspects of ICT including 'what, how and when' of Digital Transformation, methods and strategies to implement digital transformations in organizations, the disruptive forces enabling digital transformations, IoT and Cloud Computing in specific and about the impact of implementing digital transformations in organizations. The function was started with the welcome address, delivered by Mr Anurag Saxena, Chairman, Jamshedpur Local Centre. He also spoke about the importance of the day and introduced the theme of the day to the audience. The function was concluded with the vote of thanks by Mr Pravesh Kumar Dhawan, Honorary Secretary, Jamshedpur Local Centre.

## Kanpur

Kanpur Local Centre, IEI observed World Telecommunication & Information Society Day on 17 May 2021 jointly with The Institution of Electronics & Telecommunication Engineers, Kanpur Centre, The Institution of Electrical and Electronics Engineers (IEEE), UP Section, Department of Computer Science & Engineering, Harcourt Butler Technical University (HBTU), Kanpur and Incubation Hub, Harcourt Butler Technical University, Kanpur on the theme of the day through online mode. Prof Samsher, Vice-Chancellor, HBTU, Kanpur graced the function as Chief Guest. Dr Jayakumar S, Consultant, Digital Signal Processing IoT / DL was the theme speaker on this occasion and delivered lecture on the theme, covering major aspects of Digital Transformation. Dr Devi Prasad Shetty deliberated on the role of IoT, AI and Deep Learning Algorithm in healthcare services. Prof (Dr) J Ramkumar, Chairman, Kanpur Local Centre delivered the welcome address.

## Kattankulathur

Kattankulathur Local Centre of the Institution observed World Telecommunication & Information Society Day on 18 May 2021 and organised a technical webinar on the theme of the day. The Speaker of the session, Mr S Saravanan, Chief Technology Officer, Bharti Airtel explained digital transformation, digital paradoxes, digital capability which the telecommunications can operate with and digital governance. Earlier, Prof (Dr) P T Ravichandran, Chairman, Kattankulathur Local Centre, IEI welcomed the dignitaries and participants, present in the webinar. Dr (Ms) S Dhanalakshmi, Honorary Secretary, Kattankulathur Local Centre proposed the vote of thanks.

## Meerut

Meerut Local Centre, IEI observed World Telecommunication and Information Society Day on 17 May 2021 by organizing a technical webinar on the theme of the day. Keynote Speaker during the session, Mr Neeraj Joshi, Assistant Professor, Department of Electronics and Communication Engineering, Meerut Institute of Engineering and Technology discussed Artificial Intelligence and its applications in the industry & daily life and explained in details, application of IoT in smart homes, smart city, self-driven cars, retail shops, farming, wearable, smart grids, industrial internet, telehealth and smart supply chain management. Mr Joshi also discussed different issues on digital governance, e-learning and digital divide and their implications. Earlier, Mr Rajneesh Kumar, Chairman, Meerut Local Centre, IEI welcomed all and highlighted the importance of the day. The event was concluded with the vote of thanks by Mr Mohan Lal Jain, Honorary Secretary, Meerut Local Centre, IEI.

## Neyveli

Neyveli Local Centre, IEI observed World Telecommunication & Information Society Day on 17 May 2021 and organised a technical webinar on the theme. Chief Guest, Mr R Rajasekaran, Sonos, USA, CMC (India), Texas Instruments, Broadcom, Huawei, QuickLogic, deliberated lecture on the theme and explained the fundamental blocks of digitization, the present status of digitization and how fast it is accelerating. The speaker deliberated on data generation, data processing, data communication and data consumption. He further explained the communication trends prevailing today and projecting the future in this regard. Further, he touched upon few fundamentals on communication and in that flow briefed about the most important things and described digital communication, Entropy, Channel capacity, etc. He continued with the recent trends in IT and communication, which include Cloud computing, Data Analytics, IoT, Edge Computing, Neural Network and AI, etc. Before concluding, he explained, how Artificial Intelligence Machines are taking over with exponential growth on the technologies of sensing, Big Data and Machine Learning. Earlier, Mr A Sekar, Honorary Secretary, Neyveli Local Centre, IEI welcomed the Chief Guest, participants briefed about the World Telecommunication & Information Society Day and at the end, after summarizing the deliberation, proposed the vote of thanks.

*Contd. on page 15*



# News-in-Brief

The following are the brief account of Technical Activities organised by various Centres, Fora and Overseas Chapters of the Institution.

## STATE CENTRES

### Gujarat

Organized technical webinar on the theme 'Recent Trend in Civil Engineering & Water Resources Management' on 26 May, 2021 jointly with Water Management Forum, IEI & Noble Group of Institution, Junagadh. Dr R K Gajjar, Principal, L D College of Engineering, Ahmedabad graced the function as Chief Guest and addressed the gathering. Keynote Speaker during the session, Dr Rajesh Gujar, Faculty, Civil Engineering Department, School of Technology, Pandit Deendayal Energy University, Gandhinagar explained about Zero Energy Building premise, which refers to the consumption of the total amount of energy by building in a year, which must be obtained by renewable means. Keynote speaker on the session, Dr D K Dobaria, Water and Land Management Institute (WALMI), Anand, deliberated on Water Resources Management by adopting different practices.

Organized National Workshop on 'Wastewater Reuse and Water Conservation in Textile Industry' through virtual mode on 18 May, 2021 in association with Water Management Forum (WMF), IEI and The ReFashion Hub, Centre for Responsible Business. The ReFashion Hub is a collective that aims to raise awareness and drive conversation about water stewardship in India's textile industry for long term positive climate impact. As a part of this initiative, a national level multi-stakeholder consultation was organized by the Centre for Responsible Business (CRB) with support from Alliance For Water Stewardship and Water Management Forum, IEI to build consensus on establishing wastewater as a resource and dealing with it in a sustainable way by the textile industry. Er Narendra Singh, President, IEI graced the function with his kind virtual presence. Mr Upendra Prasad Singh, Secretary, Ministry of Textiles, Government of India delivered the Keynote address and subject matter experts, namely Mr Rijit Sengupta, CEO, Centre for Responsible Business (CRB); Dr K Ramesh, Senior Manager – Process Engineering/R&D, Tamil Nadu Water Investment Company; Mr Chetan Kumar Sangole, Head, Sustainability Desk, Maharashtra Chamber of Commerce, Industry and Agriculture; Mr Ankur Khanna, Khanna Industries; Mr Dinesh Chopra, Member, Indian Chemicals Council and Ex-Director, Honeywell and Ms Archana Datta, National Coordinator for India, Switch Asia – RPAC, United Nations Environment Program, discussed various aspects of wastewater reuse, policy interventions and incentives. Assuring his support to the campaign, Mr Upendra Prasad Singh, Secretary, Minister of Textiles, said, 'Wastewater management is critical for the survival of the textile industry in India and not a subject of charity. It is the responsibility of all stakeholders including the government, textile bodies and industries to invest in green technologies that conserve water'.

### Jammu & Kashmir

Jointly with Powergrid Corporation of India Limited and in collaboration with Civil Defence Budgam and J&K SDRF organized Disaster Preparedness Training and Fire Mock Drill on 1 March, 2021 at Grid Station Wagoora, Budgam, Jammu & Kashmir. Mr Aamir Ali Mir, Chairman, Jammu & Kashmir State Centre and Council Member, IEI was the Chief Guest of the event and Ms M A S W Deva, Honorary Secretary, Jammu & Kashmir State Centre, the Guest of Honour. Dignitaries present in the function include; Mr Arshad Khan, General Manager, Operations, Powergrid Corporation of India Limited, Mr Shafat Ahmed Wani, General Manager RE/SLTS, Mr Arshad Iqbal, General manager, ST Works and Mr Shiv Kumar, Assistant Commandant, CISF. A team of resource persons, namely Aijaz Ahmed, Bashir Ahmed, Abdul Qayoom, Ghulam Mohammad Mir, Noor-ul-Nayeem, Billal Ahmed,

Imtiaz Ahmed, Mohammed Illiyas, Wahid Hussain and Arshad Ahmed War imparted the training to the participants in fire fighting, basics in first aid, search & rescue techniques.

In collaboration with Divisional Administration, Kashmir organised a workshop on 'Sewerage & Drainage Issues of Srinagar' on 15 March, 2021 at Srinagar in order to discuss suggestive measures and further course of actions to overcome the drainage and sewerage issues in Srinagar. Chief Guest of the event, Mr Khurshid Ahmad Ganai, Former Advisor to the Hon'ble Governor, Jammu & Kashmir stated that the issues and problems need to be dealt with at the household level as the population of Srinagar city is increasing at an alarming rate due to which there is a huge increase in waste production. Eminent dignitaries who attended the workshop were Mr Pandurang K Pole, IAS, Divisional Commissioner, Kashmir; and Mr Athar Amir Khan, IAS, Commissioner, Srinagar Municipal Corporation.

World Meteorological Day was observed on 23 March 2021 and a webinar was organised on the topic 'ICT for Early Warning Systems for DRR' in collaboration with the National Institute of Disaster Management, Government of India. Dr Shirish Ravan, Senior Programme Officer, UN-SPIDER, Dr Anand Sharma, Scientist-F, India Meteorological Department (IMD), New Delhi and Dr Sonam Lotus, Director IMD, Srinagar were the speakers on the occasion. Dr Amir Ali Khan, Faculty, National Institute of Disaster Management (NIDM), New Delhi and Mr Aamir Ali Mir, Chairman, Jammu & Kashmir State Centre and Council Member, IEI were the Conveners of the programme.

In collaboration with Government Degree College, Pampore; Jammu & Kashmir, Disaster Management Authority and State Disaster Response Force organised one-day Disaster Preparedness Training and mock drill on 25 March, 2021 at Government Degree College, Pampore. Mr Amir Ali Mir, Chairman, Jammu & Kashmir State Centre and Council Member, IEI was the Chief Guest and delivered lecture on different aspects of the disaster management cycle and highlighted the importance of practical training in reducing vulnerabilities and managing accidents.

Organised webinar on 'Energy Conservation' on 17 April 2021, jointly with National Institute of Disaster Management, Ministry of Home Affairs, Government of India and in collaboration with Divisional Administration, Kashmir, Power Distribution Corporation Limited, Kashmir and Jammu & Kashmir State Emergency Operation Centre, Srinagar. Speakers on the occasion; Mr K K Mahajan, Lead Energy Auditor, Architect Niyati Gupta, School of Planning and Architecture (SPA), New Delhi, and Dr Janmejyoti Gupta, HOD Architecture, SPA Vijayawada addressed the audience. Major General Manoj K Bindal, Executive Director, National Institute of Disaster Management, Mr Pandurang K Pole, IAS, Divisional Commissioner Kashmir and Er Narendra Singh, President, IEI conveyed their messages for the success of the webinar.

Webinar on 'Disaster Risk and Tourism Sector' was organised on 22 April, 2021 jointly with the National Institute of Disaster Management, (NIDM) and in collaboration with J&K State Emergency Operation Centre, Srinagar, J&K Tourism Department, Divisional Administration Kashmir and J&K Mountaineering & Hiking Club. The speakers on the occasion were Mr Mahmood Ahmed Shah, President, Mountaineering and Hiking Club, Dr Ahsan-ul-Haq Chisti, Deputy Director, Tourism, Kashmir and Mr Manzoor Ahmed Wangnoo, Nigeen Lake Conservation Organisation. Major General Manoj K Bindal, Executive Director, National Institute of Disaster Management, Mr Pandurang K Pole, IAS, Divisional Commissioner Kashmir and Er Narendra Singh, President, IEI conveyed their messages for the success of the event. The moderators of the event were Dr Anil Kumar Gupta, Professor & HOD, NIDM, New Delhi and Mr Aamir Ali Mir, Chairman, Jammu & Kashmir State Centre, IEI.

Webinar on 'Forecasting Based Planning and Financing – Monsoon' was organised in collaboration with CSOs, FBOs, CBOs, Corporations, Red Cross, Civil Defence, NCC, NSS, NYK on 29 May 2021. Speakers, Dr Bhanu Pratap Mall, Founder Member Secretary, PGVS, Chair UP-IAG and Vice-Chancellor, Sphere India, Mr Makarand Kulkarni, Chief, Product Planning &

Quality, Skymet Weather Services Private Limited, Mr Mihir Joshi, Chief Convenor, SEEDS India; Ms Wahida Rehman, Secretary, Morigaon Mahila Mehfil, Assam and Mr Aamir Ali Mir, Chairman, Jammu & Kashmir State Centre & Council Member, IEI.

### **Maharashtra**

Observed World Engineering Day for Sustainable Development on 4 March, 2021 and organised a technical webinar on the occasion. Speaker, Mr Suddhasattwa Mallik, Regional Director, National Productivity Council, Kolkata delivered lecture on this occasion and explained on Lean Manufacturing, Customer Satisfaction Roadblocks etc.

### **Manipur**

Observed World Engineering Day for Sustainable Development on 4 March, 2021 at Manipur. The theme speaker, Mr N Shyamsundar Singh, Immediate Past Chairman, Manipur State Centre, IEI delivered lecture on the occasion.

### **Puducherry**

Observed World Standard Day on 20 February, 2021 and a Technical Seminar was organised on the theme 'Protecting the Planet with Standards' at Puducherry. As part of the technical seminar, Dr Senthil, Professor & T.L, Indira Gandhi Institute of Dental Sciences, a Constituent College of Sri Balaji Vidyapeeth, Puducherry delivered presentation on the topic 'Health & Safety Standards', Dr P Muralidharan, Professor & Dean, CAMERA presented lecture on the topic 'Environmental Management Standards' and Dr N Sinouvassane, A P, Department of Commerce, Indira Gandhi Government College presented lecture on 'Quality Management Standards'.

### **Tamil Nadu**

Observed World Water Day on 27 March 2021 through online Platform. Chief Guest, Mr C Senthilkumar, Head – Process & Proposals, VA Tech Wabag Limited, Chennai delivered lecture on the occasion and explained on valuing water resources, water infrastructure, services, valuing water as an important input for production and different socio-economic activities, valuing socio-cultural activities of water, different aspects of seawater desalination, reuse and recycling of used water for industrial applications, application of wastewater as the source of energy, wastewater as the source of nutrients, micronutrients for agricultural applications etc.

Organised Technical Lecture on the topic 'PMI and the Collaborative Opportunities' on 17 April 2021 through hybrid mode. Mr M Parvez Alam, Vice President, Outreach, PMI Chennai Chapter, the Guest Speaker of the event, delivered speech on the topic and introduced different features of Project Management.

### **Telangana**

Celebrated National Safety Day on 4 March, 2021 and organised a seminar on the topic 'Safe Yourself to Save Your Family' through online platform. During the occasion, Guests of Honour Dr S Satyanarayana, Immediate Past Chairman, Telangana State Centre, IEI; Dr G Narendra Reddy, Director, GNR Multi Speciality Hospital, Secunderabad; Mr Mohan Babu Yarlagadda, Joint Chief Inspector of Factories, Government of Telangana; Mr S G Belokar, Former Senior General Manager, Safety, Health and Environment, Heavy Water Board, Government of India; Mr M S N Sastry, Retired Director, DAE; Dr G Chandra Mohan Reddy, Professor of Mechanical Engineering, Chaitanya Bharathi Institute of Technology, Hyderabad (CBIT) delivered presentations on Safety.

Organized Engineers Memorial Day on 14 April 2021 on the occasion of Sir Mokshagundam Visvesvaraya Vardhanthi at Visvesvaraya Bhavan, Khairatabad, Hyderabad to pay homage to Sir Mokshagundam Visvesvaraya and garlanded the portrait.

Celebrated 130th birthday of Dr B R Ambedkar on 14 April 2021 at Hyderabad and garlanded the portrait.

With Chhattisgarh State Centre, IEI organized World Earth Day on the theme "Restore our Earth" on 22 April, 2021 through virtual mode. Dr M Velan, Chairman, Environmental Engineering Division Board (ENDB) and Council Member, IEI graced the occasion as Chief Guest. Prof (Dr) Raman Saravanane, Chairman, Puducherry State Centre, Council Member, IEI and Member, ENDB, IEI graced the occasion as Keynote speaker and deliberated on the topic 'Environment Start-ups for Rejuvenation of Water Resilience to Restore Sustainable Earth Resource'.

Organized Er Koka Krishna Mohan Rao 31st Endowment Lecture on the topic 'Comprehensive Transportation Plan for Hyderabad Metropolitan Area - 2041' on 23 April, 2021 through online mode. Dr T S Reddy, Principal Consultant, LEA Associates, South Asia Private Limited graced the occasion as Chief Guest and deliberated presentation on the topic 'Comprehensive Transportation Plan for Hyderabad Metropolitan Area – 2041'.

Organized webinar on the topic 'The Role of Public Transport in Preventing Air Pollution' in association with Hyderabad Clean Air Network on 25 April 2021. Mr C Vinod Kumar, Executive Director, Telangana State Road Transport Corporation (TSRTC) graced the occasion as Chief Guest and stated that transport is the second largest sector contributing to the global CO<sub>2</sub> emissions from fossil fuel combustion. Speakers on the occasion were; Dr S Nagabhushana Rao, Past Vice President, IEI; Dr N Raveendhar, Chief Environmental Scientist, Environment Protection Training & Research Institute (EPTRI); Mr A Srinivasa Reddy, Head EHS - Hyderabad Airport International Expansion Project, L&T Construction, B&F IC presented their views on the theme.

Organized National Survey Day on the topic 'Surveying Using Drone Imagery' on 10 April, 2021 in association with GeoMap Society (GEMS) through online mode. Mr T CH Hanuman Rao, Senior Transmission Engineer graced the occasion as Chief Guest and Speaker.

## **LOCAL CENTRES**

### **Amravati**

Observed Energy Conservation Day on 19 December, 2020 in association with Indian Water Works Association (IWWA), Amravati Centre; Believe Foundation, Amravati and Sant Gadge Baba Amravati University, Amravati and a webinar was organised on the topic 'Energy Management – Challenges & Way Forward'. Guest of Honour & Keynote Speaker, Mr Prashant Khankhoje, Senior Adviser, Independent Power Producers Association of India delivered lecture and discussed the importance of energy conservation in today's world for the development of India and stressed on the enhanced application of renewable energy resources. Dr D T Ingole, Director, Innovation, Incubation & Linkage, SGB Amravati University; Mr A M Mokadam, Chairman, IWWA, Amravati Centre; Mr A W Jawanjal, Honorary Secretary, IWWA, Amravati Centre, and other eminent dignitaries also present on the occasion.

### **Bathinda**

Organised technical webinar on 24 April, 2021 on the topic 'Energy Conservation, Energy Efficiency, Renewable Energy Use, Environment, Climate Change'. Chief Guest of the event, Prof (Dr) T S Kamal, Chairman, Electronics and Telecommunication Engineering Division Board & Council Member, IEI addressed the participants. Keynote Speaker, Mr K.K. Mahajan, Lead Auditor, ISO 9001:2015 (QMS); Energy Auditor delivered lecture on energy conservation, energy innovation and climate change.

### **Belagavi**

Organised webinar on 24 April, 2021 on the topic 'Awareness on NABL Accreditation' in association with National Accreditation Board for Testing and Calibration Laboratories. Mr Avijit Das, Director, NABL welcomed the participants, delivered the inaugural address and briefed about NABL activities. Dr Pankaj Goyal Deputy Director, NABL explained about NABL Accreditation and its importance. Mr Ranjit Kumar Assistant Director, NABL gave detailed information about Accreditation procedures for laboratories. Mr Venugopal, Technical Expert briefed about key challenges in testing of



materials in Civil Engineering Laboratories. Mr R Nagendra, Sr. Director, Stedrant Technologies Private Limited, shared his experience after obtaining NABL accreditation.

### Coimbatore

Organised webinar in association with Department of Aeronautical Engineering, Hindusthan College of Engineering and Technology, Coimbatore on 13 March, 2021. Dr Jitendra Kumar Katiyar, Assistant Professor, Department of Mechanical Engineering, SRM Institute of Science and Technology Chennai delivered lecture on the topic 'Advanced Materials in Aerospace'.

In association with the Department of Electronics & Communication Engineering, Hindustan College of Engineering and Technology, Coimbatore celebrated National Science Day 2021 and organised a technical webinar on 27 February, 2021 on the topic 'Future of STI: Impacts on Education, Skills and Work' at Coimbatore. Mrs Priya Sentil, Motivational Speaker & Self Confidence Coach, Coimbatore gave the lecture on the topic 'Science of Well-Being'.

A Technical webinar was organised in association with the Department of Textile Technology, Kumaraguru College of Technology, Coimbatore on 29 March, 2021 via online platform. Chief Guest, Mr Rajendren Subramanian, Head-Market Technical Services-Polyester Staple Fibre, Reliance Industries Limited, Navi Mumbai delivered lecture on the topic 'Recron Polyester Staple Fibre'.

Organised technical webinar on 21 April, 2021 in association with Department of Electronics & Communication Engineering, Dr N.G.P Institute of Technology, Coimbatore via online platform. Chief Guest, Prof (Dr) Amlan Chakrabarti, Director, A K Choudhury School of Information Technology, University of Calcutta, Kolkata, West Bengal, presented lecture on the topic 'Neural Networks and Deep Learning' and briefed on ANN, various layers of Convolutional Neural Network Algorithm in Deep Learning and so on.

A technical webinar was organised in association with the Department of Textile Technology, Kumaraguru College of Technology, Coimbatore on 28 April, 2021 through online platform. Chief Guest, Mr P Madhavamoorthi, Manager, Production and R&D (Fiber & Non-Woven), MATTEX Geosynthetics, Al Jubail, Saudi Arabia delivered lecture on the topic 'Production of Polypropylene Fibre and their End Uses' and discussed on the basics of polypropylene fibre, textile value chain like fibre to end-use, resin handling during processing, polypropylene manufacturing process, spinning of polypropylene filament, etc.

Organised Technical Lecture on 05 May, 2021 in association with Department of Electronics and Instrumentation Engineering, Kumaraguru College of Technology, Coimbatore through online platform. Chief Guest, Ms Shaila Nadgir, Product Manager, Electrical, Fluke Technologies Private Limited Bangalore, deliberated on the topic 'Importance of Calibration'.

Organised Technical Lecture on 08 May, 2021 in association with the Department of Production Engineering, PSG College of Technology, Coimbatore through online platform. Chief Guest of the program, Mr V Srinivasagam, Senior CAE Engineer, Tech Mahindra Limited, Bangalore presented lecture on the topic 'Role of CAE in Smarter/Faster Semiconductor Development' and explained the significance and applications of Computer-Aided Engineering in semiconductor development.

Organised technical webinar on 12 May, 2021 in association with the Department of Electrical and Electronics Engineering, Dr N G P Institute of Technology, Coimbatore on virtual mode. Chief Guest of the event, Dr V Sabariraja, Soft Skill Trainer, Dream Overseas Education, Coimbatore delivered Lecture on the topic 'Hone Your Soft Skills' and deliberated on strapping communication skills, development of Affirmative attitude, self-direction, development of leadership qualities, decisiveness etc.

Organised Technical Lecture on 15 May, 2021, in association with the Department of Textile Technology, Kumaraguru College of Technology,

Coimbatore through virtual platform. Chief Guest, Mr S Thirupathi, Director, Technical and Innovative Textile Solution Center, Coimbatore delivered Lecture on 'Challenges for Start-up and Entrepreneurship in Medical Textiles'.

### Durgapur

Organized Technical Lecture on 26 January, 2021 on the topic 'Professional Development through Teamwork' at Durgapur. Guest of the day, Mr Sisir Kumar Banerjee, Past President, IEI addressed the gathering and deliberated on the importance of effective communication and listening, time management and problem-solving through collective thinking & collaborations.

### Faridabad

Organised Technical Lecture on 17 April, 2021 on the topic 'Transition to Cyclic Process of Waste Management' through virtual platform. Dr A K Haritash, Associate Professor, Department of Environmental Engineering, Delhi Technological University, Delhi deliberated lecture on the topic 'Recycling of Plastic Waste'. Mr Ranjit Shetty, Director, Gangotree Energy Projects Private Limited, CIPL Resurge Private Limited presented lecture on the topic 'Waste Management: A Perspective for Engineers' and stated that waste management is required to create technologies for achieving an environmentally conscious, sustainable and self-reliant world and discovering renewable sources and applications of energy. Dr Sunita Bansal, Professor & Head, Department of Civil Engineering, Manav Rachna International Institute of Research & Studies, Faridabad deliberated her presentation on sustainable materials. Mr Inderdeep Singh Oberoi, Director, A D Global Synergies Private Limited, the moderator of the session mentioned that waste materials resulting from human activities are often highly resilient and take a long time to decompose. The concept of waste management is becoming insufficient for solving waste problems and likely to be replaced with the concept of resource management in the future, he added. Dr Rajender Kumar, Associate Professor, Manav Rachna International Institute of Research and Studies was the event Coordinator.

### Hosur

Organized Technical Lecture on the topic 'Agriculture and Big Data' on 22 February 2021 at Hosur. Dr H Vijayaraghavan, Professor of Crop Physiology (Retd) & Principal, Adhiyamaan College of Agriculture & Research, Athimugam deliberated lecture on the topic.

Organized Technical Lecture on 22 February, 2021 on the topic 'Development of IoT based Smart Security and Monitoring Devices for Agriculture' at Hosur. Ms Hemalatha, Associate Professor, Department of Electronics and Communication Engineering, Sudharsan Engineering College, Pudukottai deliberated lecture on the topic.

Organized Technical Lecture on 23 February, 2021 on the topic 'Machine Learning in Agriculture Applications & Techniques' at Hosur. Mr M Harish Kumar, Associate Professor, Department of Computer Science and Engineering, Adhiyamaan College of Engineering, Hosur deliberated lecture on the topic.

Organized Technical Lecture on 23 February, 2021 on the topic 'Application of IoT, Machine Learning and Big Data for Agriculture' at Hosur. Mr H Karthikeyan, Associate Professor, Department of Computer Science and Engineering, School of Engineering and Technology, Kengeri Campus, Christ, Deemed to be University, Bangalore deliberated lecture on the topic.

Organized Technical Lecture on 'Air Prognostication – Advanced Agricultural Technology' on 24 February 2021 at Hosur. Ms C Valarmathi, Assistant Professor, Department of Computer Science and Engineering, Sri Sairam College of Engineering, Anekal, Bangalore deliberated lecture on the topic and briefed about Air Prognostication.

### Kattankulathur

Organized technical webinar on the topic 'Development of Prestressed Precast Concrete Pavement' on 17 May 2021, jointly with UltraTech Cement Limited and the Department of Civil Engineering, SRM Institute of Science &

Technology. Speaker, Dr R. S. Sonparote, Associate Professor, Department of Applied Mechanics, Visvesvaraya National Institute of Technology, Nagpur deliberated lecture on the topic In his deliberation, Dr Sonparote explained significant features of prestressed concrete pavement (PCP) and discussed the basics of PCP like casting, stocking and transportation. He further disseminated about the advantages of PCP, which include; fast construction, high quality, saving in material, eco-friendly, maintenance-free and user safety/economy, and wide applications of PCP including intermittent repair, road intersections, temporary road, bus PADS, Heli PADS, airfield pavements etc.

### Madurai

A Technical Lecture was organised on 13 February, 2021 on the topic 'Airports Electrical Systems' at Madurai. Dr K Ramalingam, Managing Director, Karaikal Airport Private Limited & Former Regional Executive Director, Airport Authority of India participated as Chief Guest and delivered lecture on the topic. In his address, Dr Ramalingam deliberated on the design and implementation of airports electrification based on ICAO standards. The speaker explained airport layout and functional systems, primary and secondary energy supply, power distribution norms, low voltage distribution and load prioritization in airports, load management and control mechanisms, ground power unit supply and so on.

Organised Lecture Meeting on 10 April, 2021 on the topic 'Project Proposal for Tourist Park in Madurai Vandiyur Tank' at Madurai. Chief Guest, Mr R G Ramasamy, Former Superintending Engineer, PWD delivered lecture on the topic.

### Nagpur

Organised lecture programme on 'Cyber Crime Security' on 7 February, 2021, jointly with the Indian Society for Training and Development, Nagpur Chapter at Nagpur. Dr Ashok Bagul, Senior Police Inspector and In-charge, Cyber Cell, Nagpur Police was the speaker of the day.

Celebrated Irrigation Day in association with Sinchan Sahayog, Nagpur on 26 February, 2021. Chief Guest of the event, Mr Kishor Warambhe, Retired Executive Engineer, Water Resources Department, Nagpur deliberated lecture on the occasion and mentioned about the PENCH Irrigation Project situated at Bhandara District in Nagpur.

### Rourkela

Celebrated National Technology Day on 11 May, 2021 on virtual mode. Speaker of the day, Dr Pradip Sarkar, Professor, Department of Civil Engineering, NIT, Rourkela spoke on the topic 'Innovative System for Monitoring the Early-age Properties of Concrete'. In his deliberation, Prof Sarkar explained that automation in construction industry is indispensable to significantly improve productivity, quality, economy, safety, flexibility, and accuracy. The possibilities of recently introduced Internet of Things (IoT)-based systems are promising to attain higher level of automation in the construction industry and Real-time monitoring of various concrete parameters using IoT technology can leverage the automation process of the construction industry, he added.

### Saurashtra

Organized webinar on 9 April, 2021 on the topic 'Skills required and What After Civil Engineering'. Prof Hemant G Sonkusare, Assistant Professor & HoD, Civil Engineering Department, Atmiya University Rajkot was the speaker at the event.

### Thanjavur

Organized webinar on 24 December, 2020 on the topic 'Entrepreneurship Scope in Food Processing Sector'. Speaker, Dr N Venkatachalapathy, Professor and Head, Indian Institute of Food Processing Technology, Thanjavur deliberated lecture on the topic and mentioned that the food sector has emerged as high growth and high-profit sector due to its immense value addition potential.

### Tirunelveli

Organised Technical Seminar on 8 March, 2021 on the topic 'Embedded Systems in Automobile' at Einstein College of Tirunelveli. Mr Arun Vinoth, Project Manager, Vespa Global Technologies deliberated the lecture as speaker and discussed current trends in embedded systems.

Organised Technical Seminar on the topic 'Automation Testing by Selenium Tool – Software Testing' on 11 March, 2021 through online mode. Mr J Bright Jose, Assistant Professor, Department of Computer Science and Engineering, St. Xavier's Catholic College of Engineering, Kanyakumari deliberated lecture as a speaker of the event.

Organized Technical Seminar on the topic 'Future of Artificial Intelligence and Machine Learning' on 15 April 2021 in virtual mode. Speaker, Dr P Mohan Kumar, Professor and Head, Department of Computer Science and Engineering, Jeppiaar SRR Engineering College, Chennai delivered lecture on the topic and explained machine learning techniques in real-time scenarios.

Organized Technical Seminar on 'Secure, Sustainable Smart Cities and IoT' on 16 April, 2021 in virtual mode. Speaker, Dr K Saravanan, Associate Professor, (Sr Grade) and Head, Department of Computer Science and Engineering, Anna University Regional Campus, Tirunelveli delivered lecture on the topic.

Organised Technical Seminar on 'CO Vs PO Mapping and Assessment in NBA Accreditation' on 20 April, 2021 through online mode. Speaker, Dr M Caroline Viola Stella Mary, Professor & ERP Head, Information Technology, Francis Xavier Engineering College, Tirunelveli delivered lecture on the topic.

Organised Technical Seminar on 'Robotic Process Automation' on 23 April, 2021 through online mode. Speaker, Mrs A Margrete Vincy, Senior Software Engineer, Tata Consultancy Services, Chennai delivered lecture on the topic.

Organised Technical Seminar on 'Energy Efficiency in Stream System' on 25 April, 2021 in cloud mode. Speaker, Mr C Jebin Petger Durai, Certified Energy Auditor & Boiler Operation Engineer delivered lecture on the topic and explained energy efficiency in stream system in real-time scenarios. He also spoke about the thermal power station, application of stream and stream terminology.

Organised Technical Seminar on 'Pleasure and Benefits of Reading' on 27 April, 2021 through online mode. Speaker, Dr Balakumar Vijayaraman, Tamil Writer & Translator and Telecom Engineer, BSNL, delivered lecture on the topic.

Organised Technical Seminar on 'Guideline about Mainframe in Real World' on 30 April, 2021 through online mode. Speaker, Mr Thanga Sethil Raja, Assistant Vice President, APAC Regional Mainframe Operations Lead, Citi Bank India delivered lecture on the topic.

Organised Technical Seminar on 'Product design and Development using 3D Printing' on 5 May, 2021 through online platform. Speaker, Mr R Meby Selvaraj, Assistant Professor, Department of Mechanical Engineering, AAA College of Engineering and Technology, Sivakasi delivered lecture on the topic.

Organised Technical Seminar on the topic 'Nurturing Industry Readiness in the fields of Networking and WLAN' on 9 May, 2021 through online mode. Speaker, Mr A. Prem Sundar, WLAN SQA Engineer, Broadcom Inc., Bengaluru delivered lecture on the topic and explained the components of the Networking WLAN.

Organised Technical Seminar on 'The Smart Industry Readiness' on 13 May, 2021 through online mode. Speaker, Mr S Kharthikeyan, Assistant Professor, KPR Institute of Engineering and Technology, Coimbatore delivered lecture on the topic.

Organised Technical Seminar on 'Artificial Intelligence and Data Science' on 15 May, 2021 through online mode. Speaker, Ms Jhancy A, Senior Data Scientist, Lumen Technologies, Bangalore delivered lecture on the topic.



## Tiruchirappalli

Observed World Engineering Day for Sustainable Development in association with the Indian Institute of Information Technology, Tiruchirappalli on 4 March 2021 through online mode. Dr S D Sudarshan, Executive Director, Centre for Development of Advanced Computing, Bangalore delivered the theme address. In his deliberation, Dr Sudharsan highlighted the role of engineers for sustainable development and insisted engineers to solve environmental and social problems by applying the theory into practice and pointed out that engineering is not limited to design alone, rather it is for resilient & sustainable global growth.

Organized Lecture Meeting on 9 April, 2021 in hybrid mode. Speaker, Mr R Rajalingam, Deputy General Manager (Inst.), Paper Machine, Tamil Nadu Newsprint and Papers Limited (TNPL), Kagithapuram, Karur, delivered lecture on the topic 'Paper Machine – Quality Control System' and explained different functional features in papermaking and quality control by means of applications of Sensor Platform, Quality Control System Scanner Beam, different measurement procedures etc.

## Tiruvallur

Observed Energy Conservation Day on 29 December 2020 through online platform. An Energy Conservation Contest was organised on the occasion to increase awareness about energy conservation. Dr N M Jothi Swaroopan, Professor, RMK Engineering College was the Chief Guest of the program and Dr G Saravanan, New Product Manager, Caterpillar India was the judge of the contest.

## Tumakuru

Organised Memorial Lecture in remembrance of Late Prof. G A Shashikumar, Former Head, Department of Instrumentation and Engineering, Siddaganga Institute of Technology (SIT), Tumakuru on 8 March, 2021.

## Fora

### National Design and Research Forum

Jointly with Maharashtra State Centre, IEI organised online invited talk on 'Are We Future Ready? – Quantum Technology' on 30 January, 2021. The Speaker of the session, Dr C P Ramanarayanan, Vice-Chancellor, Defence Institute of Advanced Technology (DIAT), Pune delivered brief presentation on the topic.

Organised webinar on the topic, 'Remote Sensing Satellites and Application: An Introduction to Societal Technologies' on 27 February, 2021 in association with Alliance College of Engineering and Design, Alliance University, Bangalore. The Speaker of the webinar was Dr C J Jagadeesha, Former ISRO Scientist and Technical Advisor of NDRF. Prof R M Vasagam, Chairman, Aerospace Engineering Division Board and Council Member, IEI delivered the address on the occasion.

Organized virtual workshop on 'Laser in Engineering' on 6 March, 2021, in association with IIT Kanpur, NIT Trichy – Siemens Centre of Excellence in Manufacturing and Kalasalingam Academy of Research and Education, Srivilliputhur. Technical papers were presented during the session by Dr M Duraiselvam, Professor, Department of Production Engineering, NIT Trichi

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## World Telecommunication and Information Society Day 2021

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### North Bengal

North Bengal Local Centre, IEI observed World Telecommunication & Information Society Day on 17 May 2021 through virtual mode. Theme Speaker of the day, Mr Chinmoy Ghosh, Assistant Professor, Department of Computer Science and Engineering, Jalpaiguri Government Engineering College deliberated lecture on the theme and Mr Ghosh briefly described different aspects of Information and Communication Technology (ICT) and mentioned that ICT is capable to store, retrieve, manipulate, transmit or receive information electronically in a digital form. Mr Goutam Bairagi, Mr Asim Mahapatra, Mr Ujjal Dey joined the discussion along with Mr Santanu Das, Honorary Secretary, North Bengal Local Centre, IEI and shared their views. Earlier, the welcome address was delivered by Mr Santanu Das, Honorary Secretary, North Bengal Local Centre and at the end of the session, proposed the vote of thanks.

### Saurashtra

Saurashtra Local Centre, IEI observed World Telecommunication and Information Society Day on 17 May 2021 and organized a technical webinar in association with A V Parekh Technical Institute, Rajkot on the theme. Mr Piyush Dalsania, Lecturer, Electronics and Communication Engineering Department, A V Parekh Technical Institute deliberated lecture on the theme. Earlier, Dr Ashit Sureshchandra Pandya, Chairman, Saurashtra Local Centre, IEI welcomed all presented in the virtual session. Mr Ranchhod Kanjibhai Babaria, Honorary Secretary, Saurashtra Local Centre proposed the vote of thanks.

### Udaipur

Udaipur Local Centre, IEI observed World Telecommunication and Information Society Day on 17 May 2021 and organised a technical webinar on the theme. Keynote Speaker on the occasion, Mr Ajit Kumar Jain, General Manager, Secure Meters Limited, Udaipur deliberated his presentation on the

exchange of information via telephone or computer using the internet as a digital broadcast. Earlier, Mr Yawanti Kumar Bolia, Chairman, Udaipur Local Centre, IEI delivered the welcome address. and highlighted the significance of the digital transfer of technology. At the end of the session, Mr Chandra Prakash Jain, Honorary Secretary, Udaipur Local Centre, IEI also spoke on digital transformation and proposed the vote of thanks.

### Upper Assam

Upper Assam Local Centre, IEI observed World Telecommunication & Information Society Day on 17 May 2021 through online platform. Mr Sasanka Pratim Deka, Chairman, Upper Assam Local Centre, IEI delivered the welcome address. Miss Mayuri Deka, Safety Officer, Assam Petrochemicals Limited (APL) presented paper on the topic 'The Digital Era: The New Era of Human-Machine Relationship'. Mr Devanga G. Borah, Manager Production, APL on the topic "Bluetooth Technology" and Mr Rakesh Kalita, Deputy Manager, Excavation, NEC, Coal India Limited on the topic "Few Advancements in Telecommunication". Mr Dibakar Bhattacharjee, Ex-Deputy General Manager, Indian Oil Corporation Limited AOD moderated over the function. Mr Debajeet Sarma, Honorary Secretary, Upper Assam Local Centre, IEI proposed the vote of thanks.

### Varanasi

Varanasi Local Centre of the Institution observed World Telecommunication & Information Society Day on 23 May 2021 and organised a technical webinar on the theme. Speaker during the event, Prof S K Kak, Former professor, Department of Electronics Engineering, IIT BHU delivered lecture on the topic 'Digitalization & its Impact on Post COVID World and deliberation on digital techniques, digitalization in health care, agriculture, education, manufacturing, retailing, logistics and governance. Mr V B Singh, Council Member, IEI was also present during the function. Earlier, Prof (Dr) Siddh Nath Upadhyay, Chairman, Varanasi Local Centre, IEI delivered the welcome address. Mr Santosh Kumar, Honorary Secretary, Varanasi Local Centre proposed the vote of thanks.

# Obituary

Mr Madan Lal, Past President, IEI left for his heavenly abode on 10 June, 2021. Born in 2 November, 1937, Mr Madan Lal had a very brilliant educational career throughout. He was one of the top scholars of his home State at Matriculation and Intermediate (Science). He obtained his Bachelor's degree in Electrical Engineering in the year 1961 from Bihar Institute of Technology, Sindri with high first class. He was a TATA Scholar at BIT. He obtained his LLB from Magadh University in the year 1986. He joined Bihar State Electricity Board in the year 1961 and rose to the position of Chief Engineer (Projects and Design). Apart from his contribution in the fields of generation, supply and distribution of power, he had specialization in the field of Extra High Voltage (EHV) Power Transmission System in which he worked for nearly two decades. A singular land mark in his career as a field executive was the creditable execution and commissioning of the prestigious 90 kms long 220 KV Inter-State EHV Transmission line in a record span of 90 days (August-October, 1979) against overwhelming odds posed by the monsoon, which received national commendation. He had been on the Senate of Patna University and an advocate on record in the High Court of Judicature at Patna and a Member of Patna Bar Association. He specialized in Techno-legal matters and was an Arbitrator on the panel of various national bodies like The Institution of Engineers (India), FICCI, NHPC and Indian Council of Arbitration. He had been a delegate to many national and international conferences, which include; Workshop on International Commercial Arbitration in Washington DC, 1998, USA, International Conference on Commercial Arbitration, 1999, New Delhi; World Mining Congress, 1999, New Delhi; SAARC Conference on Arbitration Law & UNCITRAL Model Law, 2000, New Delhi; World Congress on Sustainable Development,

2000, Kolkata; World Congress on Disaster Management, 2004, New Delhi; Executive Assembly of World Energy Council 2008, Mexico City; FEISCA Executive Assembly and Conference, October, 2009, Colombo; and General Assembly of Federation of Engineering Institution of Asian & Pacific (FEIAP), November, 2009, Singapore. Mr Madan Lal joined The Institution of Engineers (India) in the year 1968 as an Associate Member (AMIE) and was elevated to Member (MIE) and then to Fellow (FIE) in 1986. He served the Bihar State Centre of the Institution as Joint Secretary, (1982-88), Honorary Secretary, (1988-92) and Chairman (1992-94). Since then he continued to be a Council Member of the IEI. He had been a Member / Chairman of various Committees of the IEI, such as, CATE, Finance Committee, Bye-Laws Committee, FEIASCA Executive Committee, RCC, to name a few. He was also Member, IMC-WFEO, Governing Council of Engineering Staff College of India (ESCI), on the Board of Governors of the Sustainable Development Forum of the Institution, and on the Board of Management of ESCI. He was Fellow of the International Council of Consultants (FICC), Fellow of Indian Council of Arbitrator (FICA) and Fellow of the Indian Institution of Technical Arbitrators (FIITA). Mr Madan Lal was the Vice President of The Institution for the session 2004-05 and had been elected as the President of the Institution for the session 2009-10.



## News-in-Brief

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and Dean, Planning & Development on the topic 'Lasers in Engineering Application and Opportunities'. Prof (Dr) J Ramkumar, Professor, Department of Mechanical Engineering, IIT Kanpur and Chairman, Kanpur Local Centre, IEI on the topic 'Laser in Academic Project and Medical Application' and Mr J A Kamalakar, Former Director, Laboratory for Electro Optics Systems (LEOS), ISRO, Bangalore on the topic 'Laser in Space Technology'.

Chairman, BOG-NDRF, Dr Mylswamy Annadurai and Director, NDRF Dr V Dillibabu called on the Hon'ble Chief Minister of Karnataka, Mr B S Yediyurappa on 10 March 2021 to discuss various technological developments of social relevance that are being developed by NDRF on a collaborative research. Chief Minister of Karnataka shown keen interest and appreciated the technological intervention of NDRF. Dr S Selvakumar, Secretary to the Chief Minister of Karnataka and Mr M Lakshminarayana, Advisor to Chief Minister of Karnataka also attended the meeting.

Organised webinar on 27 March, 2021 on the topic 'Smart Material & Structures Application, Research & Career Opportunities for Circuit & Non-circuit Branches', in association with Sambhram Institute of Technology, Engineers Without Borders (EWB) Bengaluru Professional Chapter and EWB-Student Chapter. The Speaker of the virtual event was Dr R Santhanam, Scientist, DRDO Hyderabad.

### Overseas Chapter

#### Qatar

Qatar Overseas Chapter, IEI organised Technical Webinar on 'MicroGrid and Renewable SCADA System' on 29 May 2021. Mr Azmy Ammer, President and Executive Director, OUC Qatar, Liverpool John Moores University was the Chief Guest and delivered lecture on the topic. Mr Ameer in his address highlighted the drawbacks of traditional electricity grids for having no storage capabilities and advocated for the implementation of smart grid and smart metering. Mr Seenu Pillai, Honorary Advisor and Board of Governor, ASHRAE Qatar was the Guest of Honour. Mr Giridhary Kutty, Business Development Manager, ETAP Automation, MENA was the Keynote speaker on the occasion. Mr Kutty highlighted the challenges and requirements for changing power grid face from traditional to smart grid and explained about the comprehensive platform with integrated hardware & software to design, simulate, operate, control, optimize and automate geographically expensive electrical power system networks. He also explained about SCADA Model System and its products, how to minimize and simplify settings, support design to operation of a SCADA system and how to enable predictive simulation, handle distribution microgrid dynamic configuration.

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