



IEI NEWS

April 2021

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A CENTURY OF SERVICE TO THE NATION

Volume 28

Number 1

From the President's Desk.....

Disaster Awareness and Mitigation in Hilly Region

I hail from Uttarakhand, a state amidst hilly terrains of the northern India. The hills of Uttarakhand are known to be fragile and prone to disaster. Landslides are common occurrence affecting the state, as roads are blocked making it difficult to transport the basic amenities, ration etc to people. This problem can compromise national security especially if movement of defence personnel is restricted due to landslides.



Natural Disasters, which are often sudden and intense, can cause considerable destruction, injuries and death, disrupting normal life as well as the process of development. Increasing population and various other socio-economic factors have forced people to live in vulnerable areas. Natural disasters are perceived to be on the increase in terms of their magnitude, frequency and economic impact.

Recently a webinar was organized by Disaster Awareness and Management Cell, Uttarakhand State Centre, IEI at Dehradun. Eminent speakers, namely, Dr Shantanu Sarkar, Chief Scientist, CSIR-CBRI, Roorkee and Dr Kuntala Bhusan, Scientist, North Eastern Space Applications Centre, Meghalaya, spoke on the need for early detection of slope stability assessment while planning for any construction so that land-slide occurrences are minimized. They also mentioned that quantified slope stability assessment of the vulnerable slopes can also be worked out. Geospatial tools including Earth Observation (EO) data, data

from Indian Regional Navigation Satellite System (IRNSS) or Global position system (GPS) data from various sensors mounted on Unmanned Aerial Vehicle (UAV) help in various stages of landslide investigations.

Destruction by Rishiganga Feb 2021

A massive flash flood in Rishiganga and Dauliganga Rivers inundated Chamoli District (Uttarakhand) causing large scale destruction to infrastructure, especially the hydropower stations, bridges and roads as well loss of human lives. Flash floods were reported in the Rishiganga, Dhauliganga and Alaknanda Rivers that damaged NTPC's Tapovan-Vishnugad hydel project and the Rishiganga Hydel Project, bridges, roads and settlements, in and around Raini, Tapovan and Joshimath areas in Uttarakhand.

A pre and post change analysis from the satellite imagery shows that a large rockslide may have occurred along the western slope of the Trishul glacier. Analysis of pre-event imagery from Sentinel-2 satellite dated 5 February, 2021 shows an overhanging rock formation with existing crack

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Thirty-sixth National Convention of Chemical Engineers & National Conference

Frontier Technologies for 21st Century's Process Industries

Durgapur Local Centre of the Institution, in association with Department of Chemical Engineering, National Institute of Technology Durgapur organized Thirty-sixth National Convention of Chemical Engineers & National Conference on the theme **Frontier Technologies for 21st Century's Process Industries** under the aegis of Chemical Engineering Division Board, IEI during 6-7 March, 2021 through virtual mode. Prof Anupam Basu, Director, National Institute of Technology Durgapur was the Chief Guest during the inaugural session. Prof Basu, in his address emphasized on the modelling system of chemical process



Prof Anupam Basu

industries where the major component of Artificial Intelligence (AI) has been deployed in various production structures. He also highlighted on application of machine learning techniques including Artificial Neural Network (ANN) and Deep Learning which are being utilized in process modelling in the chemical process industries. Prof Basu later focused on the safety measures, which is normally considered at in-situ level and safety by design methodology for process industries, where environmental factors, safety of workers etc are being considered. Er Narendra Singh, President, IEI delivered his presidential address and highlighted different activities of IEI including examination, relationship with professional bodies abroad, publications, international conferences etc. He also stressed on various important events organized by IEI during its Centenary Year. Mr S Rajagopal, Chairman, Chemical Engineering Division Board (CHDB), IEI presided over the function and coordinated the Panel Discussion on the topic 'Future of Chemical Engineering'. Earlier, Prof (Dr) Kartik Chandra Ghanta, Chairman, Durgapur Local Centre, IEI in his welcome

address briefly mentioned on various frontier technologies in process industries and its challenges. Dr Abhiram Hens, Organising Secretary of the National Convention and Moderator, briefed about the theme of the Convention to the august audience. On this occasion, Prof Sudhasatwa Basu, Director, CSIR-Institute of Minerals and Materials Technology, Bhubaneswar; Mr Santosh Chandra, Chief Executive Officer, Essar Oil & Gas Exploration and Production Limited, Mumbai and



Prof Sudhasatwa Basu

Mr Ashok Kumar Ghosh, Executive Vice President, Haldia Petrochemicals Limited, West Bengal were felicitated as Eminent Engineering Personalities during the occasion for their outstanding contributions in the field of chemical engineering. The prestigious Acharya Prafulla Chandra Ray Memorial Lecture was delivered by Prof Ravindra D Gudi, Professor-in-Charge, IIT Bombay Research Park Foundation, IIT Bombay, Mumbai on the

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Frontier Technologies for 21st Century's Process Industries

Contd. from page 1

topic, "Towards Next Gen Process Industries: Exciting opportunities from IoT and AI & ML". During the occasion, the State-of-the-Art Lecture was delivered by Prof Suddhasatwa Basu, Director, CSIR - Institute of Minerals and Materials Technology, Bhubaneswar on the topic, "Energy on Fingertips: Membrane-less Micro fluidic Water Electrolyzer for Hydrogen and Oxygen Production" and the Keynote Address was delivered by Mr Ashok Kumar Ghosh, Executive Vice President, Haldia Petrochemicals Limited, West Bengal on the theme. An e-Proceedings on the theme of the National Conference was released during the inaugural function. Number of delegates from various Government organizations, educational institutions and industries were participated in the National Convention. Mr M K Biswal, Honorary Secretary, Durgapur Local Centre proposed the vote of thanks at the end



Mr Santosh Chandra

of inaugural session.

During the technical sessions, there were active participations and in-depth discussions. Large numbers of papers were presented during five technical sessions on diversified sub themes, which include, Chemical & Biochemical Process; Process Modeling & Simulation; Thermodynamic, Kinetic & Flow analysis; Industrial Waste Treatment



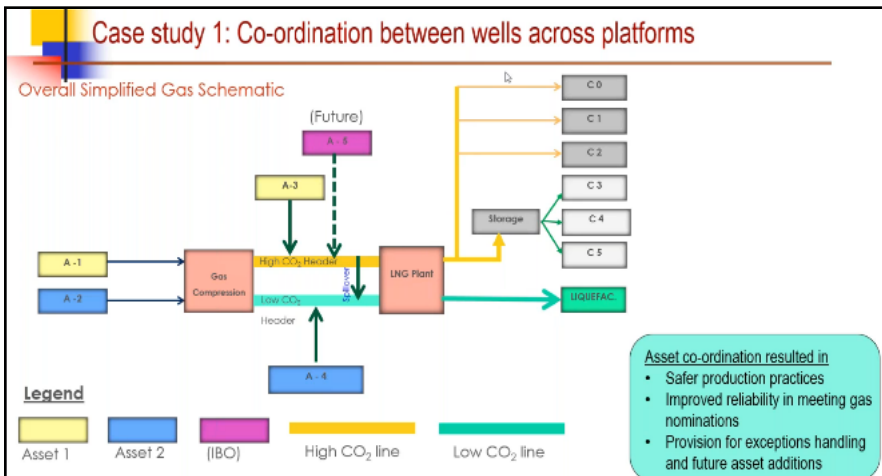
Mr Ashok Kumar Ghosh

& Utilization and Plant Operation & Industrial Safety. During the valedictory session, the Chief Guest was Dr Amit Ganguly, Senior Principal Scientist, Head-Energy Research & Technology Group, CSIR-Central Mechanical Engineering Research Institute, Durgapur. During his address, Dr Ganguly highlighted the application of AI to optimize the process technologies for increasing the production efficiency by reducing the energy consumption. He also focused on the digitization in chemical industry in the area of predictive maintenance, plant design and other relevant areas. Dr Ganguly also stressed on the utilization of Industry 4.0 concept in chemical process industry in the near future. He strongly recommended that the applications of solar PV, producing hydrogen fuel, methanol production etc. will be the future of chemical industry. To maintain the proper frontier technologies in the process industries, Dr Ganguly also highlighted on adequate training and skill development program for start-up and MSME to create real Atma Nirbhar Bharat. Mr Safikul Islam, Convenor of the Organising Committee of the National Convention proposed the vote of thanks at the end of valedictory function. The Recommendations emanated from the National Convention, are as follows:-

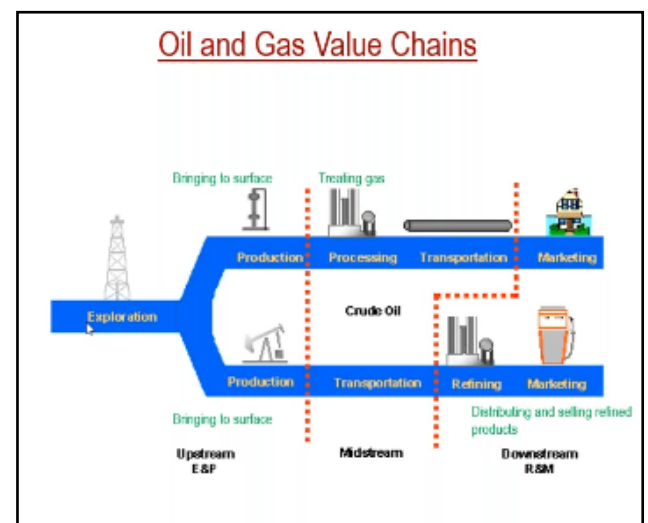
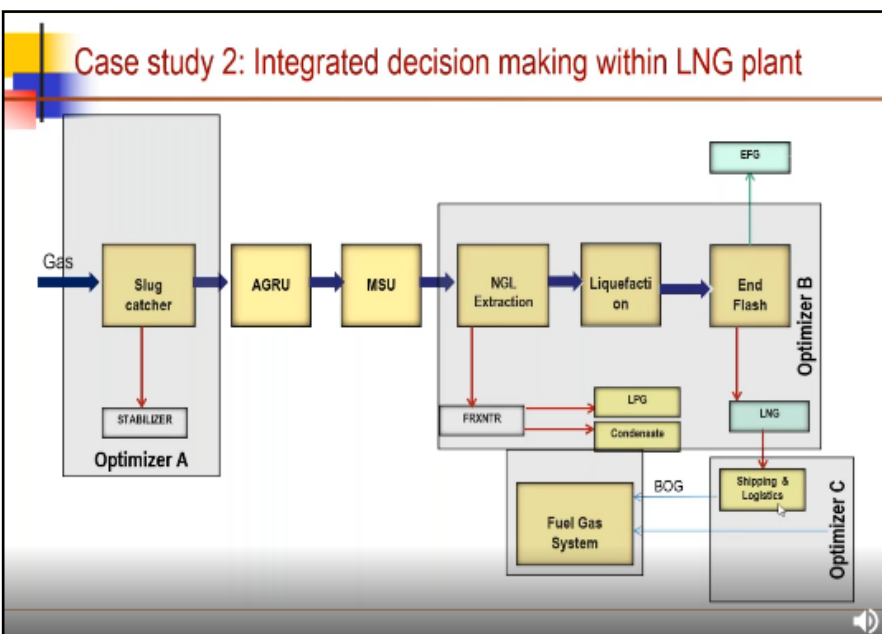


Prof Ravindra D Gudi

Energy crisis solution and process optimization; Advent of artificial intelligence and its application in chemical process industries; Process safety; Need of large integrated plant; Waste utilization and environmental protection.



	Power Generation in Tandem μ EC-FC	Power Generation in PV Cell
Power Density (mW cm ⁻²)	10 - 14	12 - 20
Efficiency	8.5 - 10 %	10 - 20%
Cost (USD/power density)	2 - 3	12 - 15



From the President's Desk.....

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on the flank of the western peak adjacent to the Trishul glacier. This may have resulted in formation of ice and rock laden unstable block, upslope. On 7 February 2021, this block of ice and rocks collapsed. The rockslide, along with the overlying ice sheet, was triggered by the weight of snow /ice overburden over layers of insitu rock or by snow melted water that percolated through the bedding planes / fractures/ joints. These discontinuities (bedding planes/ fractures/ joints) could have been in destabilized state due to repeated freeze-thaw cycles, over many years. After falling around 2 km, the rock and ice shattered as it hit the ground, triggering an enormous landslide and dust cloud. Due to the steep topography, the accelerating rock and ice raced through Ronti Gad and then Rishiganga River valley and it picked up glacial sediments and melted snow on course. All the materials transformed into fast-moving slurry that devastated everything in its path as



it rushed through the river valley. The flash flood resulted extensive damage to the bridges, hydel projects and other infrastructure in the Rishi-ganga and Dhauliganga river valleys. This also resulted in jamming of a tributary of the Rishiganga due to the debris which was brought down by the landslide induced flash flood. As many as 5 bridges and the hydropower projects at Rishiganga and Tapovan were extensively damaged and about 200 lives were reported to be lost.

Destruction by Mandakini River in Kedarnath-2013

On 16 June 2013, swarming bank of Chorabari Lake came down carrying a large amount of rocks and silts causing a flash flood in river Mandakini. The bank carried away homes, lives and everything that came its way. Routes and streams all were clogged with sand and rocks. Several towns and lives got engulfed in the overflowing water. Buildings and villages were submerged under several feet of mud. Over 5,000 people were reported to be dead or missing which also included pilgrims from across the globe. All you can see around was a shattered image of everything tearing down. Even after a week several dead bodies were not removed. It caused contamination of water in the Kedarnath valley affecting villagers who are heavily dependent on spring water with many suffering from water-borne ailments like fever and diarrhoea. IEI donated Rs. 11.00 lac to the Chief Minister's Relief Fund. The engineers of Uttarakhand also took initiative in installing small hydro project to generate electricity for Kedarnath and to provide infrastructures for livelihood during calamity. There are several instances of other Major Calamities in the Himalayan Region-Phata landslide in 2001, Uttarkashi landslide in 2003, Gangotri in 2007, Munsyari, Pithoragarh in 2009, to name a few.

Better understanding of the hazard will help people to live in harmony with the pristine nature. Since India has a considerable portion of its land area prone to landslides, preparation of landslide susceptibility zonation (LSZ) maps for these areas is of utmost importance. This in-turn will help the administrators for safer planning and future development activities.

Conclusion

"Field-based assessment should be conducted for those potentially dangerous (PD) lakes to have a detailed understanding of the hazard. The study should also include the area downstream of the lake to understand the risk. Glacial Lake Outburst Flood (GLOF) modelling can provide scenarios of GLOF impacts in the downstream. We need to have robust methodology and capacity to conduct studies which will assist us in hazard/risk assessment. These studies may include

- Improved in situ monitoring network for weather, hydrology and glacier change for predicting the future of this resource and associated hazards.
- Gathering baseline data to understand the hydrology, geology and climate change response of Himalayan glaciers.

Currently, there are a lot of unknown parameters that impede successful prediction and quantification of future catastrophic events that may become more common with climate change.

Prof. Satyendra Mittal of IIT Roorkee has developed soil nailing and soil anchoring technique which he has successfully tested on more than 150 project sites in Uttarakhand and other states also. Besides nailing techniques, rock fall protection nets developed by M/s Maccaferri, Strata and other companies may be installed to control the menace of landslides. Such techniques may stabilize hill slopes which are vulnerable to landslides.

Er Narendra Singh, FIE
President, IEI

Energy Conservation

Bokaro Steel City Local Centre, IEI in association with SAIL, Bokaro Steel Plant and Bokaro Power Supply Company Private Limited (BPSCL) Bokaro organised One Day Workshop on the theme **Energy Conservation** under the aegis of Electrical Engineering Division Board of the Institution on 28 February, 2021. The Chief Guest during the function, Mr K K Thakur, Chief Executive Officer, BPSCL inaugurated the function by lighting the lamp. In his inaugural address, Mr Thakur stressed on the stoppage of energy wastage and emphasized on more applications of energy efficient appliances & equipment with latest technology. Further, he spoke about energy conservation in power plants and mentioned about various initiatives already under implementation for energy conservation in BPSCL. Guest of honour during the function, Mr P K Bhui, General Manager, Energy Management Department, SAIL, Bokaro Steel Plant, delivered the Keynote address and spoke about various aspects of energy conservation. Mr Bhui in his lecture mentioned about fast depletion of natural resources and its' adverse implications for future generation, which



is required to be replaced with renewable energy sources to protect the environment, climate change, reduce carbon emission and preserve natural resources. Further, the speaker, during his deliberation, projected various data & graphs regarding energy conservation in iron & steel making industry to reduce energy consumption and in turn production cost and advised for strict compliance for two Government organizations namely BEE & PCRA for conservation of energy. Earlier, Mr Yogendra Nath Singh, Chairman, Bokaro Steel City Local Centre welcomed the dignitaries and delegates and spoke about the importance of energy conservation. During the technical sessions, six papers were presented by the experts and professionals in the related field.

During valedictory session, Mr S K Sahoo, Chief General Manager, Energy Management department, SAIL, Bokaro Steel Plant was the Chief Guest. Mr Nitesh Ranjan, AGM (Environment) SAIL, Bokaro Steel Plant summed up the proceedings of the event and placed the following recommendations.

Engineers should play the most important role in adoption of energy efficient process specific technologies by installation of variable voltage & frequency drive & energy efficient appliances in plants; Energy efficient technologies should be adopted by steel industries including Coke Dry Quenching in COBPP, waste Heat Recovery from BF stoves, Top Pressure Recovery Turbine, Pulverized Coal Injection, Waste Heat Recovery from SP, Automated Combustion Control at Coke- Oven to reduce consumption of fuel in Steel Plants; BEE rating of home-appliances must be checked before procurement. With reducing cost of Solar panels, installation of roof-top solar inverters may drastically cut the electricity bills of house-hold in long run; Suitable strategy be formulated to promote recently launched Faster Adoption & Manufacturing of Hybrid & Electric Vehicles (FAME) scheme by the Government of India, which can enhance the energy efficiency in automobile sector along with providing incentive for purchase of new electric vehicles; Power Factor improvement at Plant level including initiatives such as introduction of VVFD and switching over to Energy Efficient Lighting System which help in reduction of power consumption across plant; Introduction of Advance Control Systems such as SCADA in Power Handling & Distribution System and Water Distribution and Management System will help in improvement of energy efficiency; The initiative of Government of India for harnessing Solar Power with formulation of International Solar Alliance in line with Paris Declaration on Climate Change and grid connected solar to achieve 175 GW of renewable energy by 2022, along with promotion of Green Buildings, Ujwala Yojna, ie Use of coking coal instead of wood; Ujala campaign, ie, Use of LED light instead of conventional light to reduce the power consumption & CO₂ emission in long run.

Mr Deo Prasad Jha, Honorary Secretary, Bokaro Steel City Local Centre, IEI proposed the vote of thanks

Simulation of Machine Learning using Open-Source Tools

Rajasthan State Centre of the Institution organized Technical Webinar on the topic **Simulation of Machine Learning using Open-Source Tools** under the aegis of Computer Engineering Division Board, IEI on 13 March, 2021. Mr Sajjan Singh Yadav, Chairman, Rajasthan State Centre, IEI delivered the inaugural address and welcomed Chief Guest on the occasion, Mr T M Gunaraja, Immediate Past President, IEI, Guest of Honour, Mr Sisir Kumar Banerjee, Past President, IEI, Prof (Dr) Swapan Bhaumik, Chairman, CATE, IEI, the Panelists during the Session; Dr Arvind Kumar Sharma, Educational Technologist, Kota and Dr R Sujatha, Associate Professor, School of Information Technology and Engineering, VIT, Vellore, Moderator of the Session, Mr Prashant Joshi, Lecturer, Computer Engineering, Government Polytechnic College, Barmer and the audience present during the occasion.



Dr R Sujatha

Dr T M Gunaraja, while delivering his speech, congratulated Rajasthan State Centre, IEI for their untiring efforts to facilitate technology enabled learning during the pandemic. Mr Sisir Kumar Banerjee, in his address explained that machine learning provides a powerful set of tools that enable engineers and scientists to use data to solve meaningful and complex problems, make predictions, and optimize the systems and products to maximize the output. Mr Banerjee in his address mentioned that the vast



Dr Arvind Kumar Sharma

volumes of data and powerful computational processes have opened new avenues for exploration and analysis. He highlighted further that simulation has the potential to determine the end-result of a task before performing it, eliminating all the risks out of it and the simulation software helps in foreseeing the potential risks involved with the particular operation before actually taking it into action. Prof (Dr) Swapan Bhaumik, Chairman, CATE, IEI, in his address expressed words of appreciation and usefulness of the webinar. Prof Bhaumik further underlined the use of open-source tool as the need of the hour.



Mr Prashant Joshi

Panelist, Dr Arvind Kumar Sharma in his deliberation discussed at a length the basics of data science and it's significance, analogy & life cycle of data science, difference & relation between Artificial Intelligence, Machine Learning & Deep Learning, roles and responsibilities of data scientists, essential of Machine Learning Algorithms, types and techniques of Machine Learning, application of different tools in data science with Machine Learning etc. Panelist, Dr R Sujatha, in her address highlighted various Data Mining tools & techniques, Datasets & Projects for Data Mining, theoretical & practical aspects of Orange open-source Data Mining software, demonstration of orange tool along with its various feature etc. A brief question-answer session was held at the end of the session. Dr Hemant Kumar Garg, on behalf of Rajasthan State Centre proposed the vote of thanks. The program was well attended by the engineers and professionals from different parts of the country.

Electrical Power Distribution Management

Udaipur Local Centre, IEI organized Technical Webinar on the theme **Electrical Power Distribution Management** on 27 February, 2021 under the aegis of Electrical Engineering Division Board. Dr R R Joshi, Former Professor & Head, Department of Electrical Engineering, College of Technology and Engineering, Udaipur was the Keynote speaker during the session. Mr Ritesh Patidar, Executive Engineer, Nagar Nigam, Smart City, Udaipur graced the function as the Panelist of the session. Mr Purushottam Paliwal, Former Executive Engineer, Ajmer Vidhut Vitaran Nigam Limited was the Moderator during the function. Mr P Rajamani, Chairman, Electrical Engineering Division Board, IEI while deliberating on the theme of the webinar, emphasized on efficient management of electrical power distribution system with specific stress on safety and maximum utilization of renewable energy generation systems, which are very essential in present scenario. Mr Yawanti Kumar Bolia, Chairman, Udaipur Local Centre, IEI in his welcome address, stressed on quality electricity supply to the consumers at affordable price by providing and maintaining required protection measures properly to avoid loss of precious lives by complying CEA Regulations on Safety and Training.



Dr R R Joshi

The Keynote speaker of the session, Dr R R Joshi, in his deliberation mentioned that electrical power distribution system can be better managed with the application of Artificial Intelligence, smart metering etc. Mr Joshi felt that, by incorporating these latest technological innovations, both revenue generation and safety & security can be increased by reducing theft and loss in electric power. As a result, the system can be operated more efficiently and economically. Moreover, the speaker stated that by adopting these technological tools, distribution utilities can function in a better way. Dr Joshi in his address highlighted that one fourth of world population is deprived of benefits of electricity and that no reform will be successful, unless the problem is tackled in a realistic manner. He felt that power theft is the single major cause of all disorders & problems, which is a burden of thousands of crores of Rupees. Dr Joshi proposed to strengthen the entire power supply system to reduce theft and minimize losses by means of changing Current Transformer (CT) /Potential Transformer (PT) metering set, periodic checking of Multiplication Factor (MF) of appliances, prevent wrong connection of CT PT Meter with cross potential irregularity, proper sealing of HT meter box on hinges, front glass door & gasket, prevention of tampering Test Terminal Block (TTB) etc. The speaker, in his address highlighted machine learning based approach to control power theft, which include AI based TDR & FDR and DSM, AI based energy audit through Geographic Information System (GIS), Automated Meter Reading (AMR), smart metering, prepaid meters, check metering system, rural load management system, benchmarking of consumers, radio frequency identification (RFID) etc.

Mr Ritesh Patidar during his deliberation opined that to maintain the heritage



Mr Ritesh Patidar

beauty of Udaipur city, power cabling in underground trenches, power distribution system through smart grid management will be managed in a better manner and will also reduce power theft and electrical accidents. This will increase quality of life in the city with ease of business and accelerate tourism industry. While talking about the Smart City Mission, Udaipur, Mr Patidar mentioned about the initiatives of the Government of India to drive economic growth and improve quality of life. He further highlighted that assured electricity supply is one of the core infrastructure elements of a Smart City along with water supply, sanitation, robust IT connectivity, public transport etc. In the year 2015, Government of India announced a list of 100 smart cities and Udaipur was among the first 20 cities to be included in this mission, he added. Mr Patidar in his address further outlined that the city of Udaipur has been divided into two parts for implementation of Smart



Mr Purushottam Paliwal

City Mission, (a) Area Based Development (ABD) area where a small part of the city is selected to implement large scale infrastructural development to project this part as a model of development to the rest of city and (b) PAN city area, where general smart solutions such as surveillance, ITMS (Intelligent traffic management solution) etc are implemented. The speaker further stated that the Smart City power distribution concept, with its intelligent equipment solutions, has been developed for the demanding urban power distribution environment and uninterrupted power distribution is required not only to guarantee normal life and business conditions, but also to ensure continuous availability of electricity for emergency services. The speaker felt that, to secure undisturbed power distribution in critical areas, such as commercial centers, it is necessary to receive early pre-fault warnings and to have a network where alternative supply routes can be arranged. Moreover, in emergency situations, it is essential to have fast and accurate fault localization, fault isolation and power restoration via remote reconfiguration of the network, he recommended. Further, he explained that emerging needs for energy savings, demand response, integration of distributed electricity generation and support for the charging of electrical vehicles have to met with real-time grid information.

Moderator during the session, Mr Purushottam Paliwal summed up the proceedings of the session and shared his experience about planned urban power distribution system with erection of required infrastructure maintaining relevant Standards.

Mr Chandra Prakash Jain, Honorary Secretary, Udaipur Local Centre while proposing the vote of thanks, emphasized on uninterrupted power supply and stated that, the electrical power distribution system can be managed in a better way by incorporating latest technological innovations and available efficient mechanisms. Mr Jain opined that AI enabled electrical utilities are able to perform different field functions, like Meter readings, disconnections, reconnections, fault locations with more accuracy and efficiency without much human intervention, which can save man power and able to facilitate both consumers and distribution utilities.

Important Notice

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

The Corporate Members whose mobile number/email id is not registered with IEI are therefore requested to kindly communicate their mobile no. and email id along with membership number to datamemb@ieindia.org by 10 May 2021.

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

Dr H R P Yadav
Secretary and Director General



IEI Celebrates World Engineering Day for Sustainable Development 2021

Theme
**Engineering for A Healthy
Planet: Celebrating the
UNESCO
Engineering Report**

World Engineering Day for Sustainable Development was celebrated by the Centres of the Institution all over the country on March 04, 2021. Brief accounts of the celebration as received from various Centres are reported hereunder.

STATE CENTRES

Bihar

Bihar State Centre, IEI observed World Engineering Day for Sustainable Development on 6 March 2021 and organized a round table discussion on the theme of the day. At the outset, Mr Nishi Kant Prasad Sinha, Chairman, Bihar State Centre welcomed the guests and participants. Eminent dignitaries, graced the occasion were; Mr K N Sahay, Dr B K Sahay, Prof (Dr) Sanjeev Sinha, Mr S M Sahay, Mr B N Singh, Mr K A P Singh, Mr Shakti Saurabh and Mr Prashant Kumar. Mr Kumar Abhay Pratap Singh, Honorary Secretary, Bihar State Centre proposed the vote of thanks.

Chhattisgarh

Chhattisgarh State Centre of the Institution observed World Engineering Day for Sustainable Development on 13 March 2021 through online platform. Chief Guest on the function, Mr Pradeep Chaturvedi, Chairman, Interdisciplinary Coordination Committee, IEI in his address explained the roles of engineers to achieve the Sustainable Development Goals. Keynote Speaker on the occasion, Mr Rakesh Dubey, Director, ERDMP Academy, Bhopal delivered lecture on the topic 'Sustainable Development Goals – Challenges & Opportunities'. Mr Salil Shrivastava, OSD, Department of Housing and Environment, Government of Chhattisgarh delivered his address on the topic 'Sustainable Development of Cities'. Earlier, Mr Anil Kumar Sharma, Chairman, Chhattisgarh State Centre delivered the welcome address and reminded about the collective accountability towards Mother Earth.

Gujarat

Gujarat State Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 in hybrid mode, through both online and offline platform, jointly with the World Federation of Engineering Organizations (WFEO), Indus University, Ahmedabad and Water Management Forum, IEI. Mr Navinchandra B Vasoya, Past President & Council Member, IEI and Member, Executive Council, World Federation of Engineering Organizations presided over the function. Chief Guest on the occasion, Mr M P Raval, Special Secretary (Saurashtra), Water Resources Department, Government of Gujarat & Immediate Past Chairman, Water Management Forum, IEI explained the Sustainable Goals of UNESCO and the challenges for infrastructure development. Guest of Honour, Prof. Dr Ing. Anupam Kumar Singh, Director, Indus University, Ahmedabad explained the methodology to achieve sustainable development goals by the engineers. Keynote speaker, Prof (Dr) Santhaveerana Goud, Civil Engineering Department, Bangalore University delivered lecture on the theme of the day. Earlier, Mr H U Kalyani, Chairman, Gujarat State Centre, IEI delivered the welcome address.

Jammu & Kashmir

Jammu & Kashmir State Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 through cloud mode. The event was inaugurated by Mr Bashir Ahmed Dar, Secretary (Technical), Power Development Department, Government of J & K. Welcome address was

deliberated by Mr Aamir Ali Mir, Chairman, Jammu and Kashmir State Centre. Speakers during the function were Dr Amir Ali Khan, Faculty, National Institute of Disaster Management, Government of India, Mr Shoukat Jeelani, Chief Engineer, R&B, Kashmir, Mr Rashid Ahmed Dar, Chief Engineer, Mechanical Engineering Department and Mr Iftikar Ahmed Kakroo, Chief Engineer, Irrigation and Flood Control, Kashmir. Ms M Sultana Waheed Deva, Honorary Secretary, Jammu & Kashmir State Centre proposed the vote of thanks.

Puducherry

Puducherry State Centre, IEI observed World Engineering Day for Sustainable Development on 6 March 2021 and organized a guest lecture on the theme. Dr R Ilansezhan, Professor, Department of Mechanical Engineering and Placement Officer, Puducherry Technological University, was the speaker on the occasion. Mr M Dhanasekaran, Chairman and Managing Director, Sri Manakula Vinayagar Educational Trust also addressed the audience. Dr R Saravanane, Chairman, Puducherry State Centre, IEI and Professor & Head, Department of Civil Engineering, Puducherry Technological University delivered the welcome speech. Dr B Radjaram, Honorary Secretary, Puducherry State Centre proposed the vote of thanks.

Tamil Nadu

Tamil Nadu State Centre, IEI observed World Engineering Day for Sustainable Development on 6 March 2021. Dr A Sivathanu Pillai, Founder CEO & MD, BrahMos Aerospace was the Chief Guest during the function. Dr Pillai, in his address explained different dimensions of sustainable development, green revolution, different sources of clean energy generation, satellite debris etc. Dr T M Gunaraja, Immediate Past President, IEI and Dr L Karunamoorthy, Member, Production Engineering Division Board, IEI, Professor, Department of Mechanical Engineering and Registrar, Anna University, Chennai were the Guest of Honours. Earlier, Mr R Ramdoss, Chairman, Tamilnadu State Centre, IEI delivered the welcome address. Dr R Velraj, Former Director, Department of Energy Studies, Anna University, Chennai delivered the Thematic address. Mr S Kannan, Honorary Secretary, Tamilnadu State Centre proposed the vote of thanks.

Telangana

Telangana State Centre, IEI observed World Engineering Day for Sustainable Development through organising a Webinar on 4 March 2021. Er Narendra Singh, President, IEI graced the function as Chief Guest. Guest of Honours during the function were Dr I V Muralikrishna, Professor and Director (R&D), JNTUH; Dr Shaik Basha, Senior Principal Scientist & Head, CSIR-NEERI; Dr M Gopal Naik, Professor and Head, Department of Civil Engineering, University College of Engineering, Osmania University; Dr M V S S Giridhar, Professor & HOD, Centre for Water Resources Institute of Science & Technology, JNTUH; Prof. K V L Subramaniam, Professor, Department of Civil Engineering, IIT Hyderabad; Dr A Gangagni Rao, Chief Scientist, CSIR-IICT; Dr R Pradeep Kumar, Professor of Civil Engineering & Head, Earthquake Engineering Research Centre, IIT Hyderabad were made their presentations on the occasion. Earlier, Dr G Rameshwar Rao, Chairman, Telangana State

Centre welcomed the audience. Mr T Anjaiah, Honorary Secretary, Telangana State Centre proposed the vote of thanks.

Uttar Pradesh

Uttar Pradesh State Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 through online mode. Keynote Speaker on this occasion, Mr Masarrat Noor Khan, Former Managing Director, U P State Bridge Corporation and Chief Engineer (Retd), PWD delivered lecture on the theme. Earlier, Mr Rajesh Kumar Trivedi, Chairman, UP State Centre, IEI welcomed all and spoke about the importance of the day. Convener of the program, Mr V B Singh, Chairman, Civil Engineering Division Board, IEI addressed the audience. Mr Prabhat Kiran Chaurasia, Honorary Secretary, UP State Centre proposed the vote of thanks.

West Bengal

West Bengal State Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021. Eminent speakers, Prof A K M Saiful Islam, Institute of Water and Flood Management, Bangladesh University of Engineering and Technology (BUET), Dhaka and Prof (Dr) Saptarshi Sankar Chakraborti, Techno India University presented their lectures on the theme of the day. Mr Sisir Kumar Banerjee, Past President, IEI was present on the occasion and expressed his views. Earlier, Mr Sandip Kumar Deb, Chairman, West Bengal State Centre delivered the welcome address. Mr Kalipada Das, Honorary Secretary, West Bengal State Centre proposed the vote of thanks.

LOCAL CENTRES

Agra

Agra Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021. Chief Guest on the occasion, Prof. V K Saraswat, Director, Institute of Engineering and Technology, Dr Bhim Rao University Khandari Campus Agra emphasized on access to clean water, sanitation, reliable energy etc for the holistic development of the society. Dr R K Jain, Head, Department of Biotechnology Engineering, Anand Engineering College Agra was the Keynote speaker during the session. Earlier, Mr Devendra Singh Chaudhary, Honorary Secretary, Agra Local Centre welcomed the audience. Dr Ashok Yadav, Chairman, Agra Local Centre also addressed the audience.

Aligarh

Aligarh Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021. Chief Guest, Prof. Hamid Ali, Former Dean, Faculty of Engineering & Technology, Aligarh Muslim University delivered lecture on the occasion and talked about the importance of sustainable development in different spheres. Guest of Honour, Mr Arun Kumar Gupta, PCS, Additional Municipal Commissioner, Aligarh Nagar Nigam shared his views, experience for sustainable development. Earlier, Mr Suresh Chandra Gupta, Chairman, Aligarh Local Centre delivered the welcome address. Prof (Dr) Nadeem Khalil, Honorary Secretary, Aligarh Local Centre introduced about the theme.

Angul

Angul Local Centre, IEI observed World Engineering Day for Sustainable Development and organised a webinar on the theme of the day on 4 March 2021. The Chief Speaker on the occasion, Prof (Dr) T G Sitharam, Director, Indian Institute of Technology Guwahati in his address stressed on the role of engineering community for sustainable development in general and solution to water scarcity and security in particular. Mr A P Panda, Executive Director, NALCO also spoke in this occasion. At the outset, Mr Sangram Keshari Samantaray, Chairman, Angul Local Centre welcomed the dignitaries and participants. Mr Siba Ram Panda, Honorary Secretary, Angul Local Centre introduced the Chief Speaker and at the end of the session, proposed the vote of thanks.

Aurangabad

Aurangabad Local Centre, IEI observed World Engineering Day for

Sustainable Development on 4 March 2021 through online platform. Chief Guest on the occasion, Prof Pranav Bansode, Founder of Merago Labs, Director at Vishwaganga Electrical Works and Former HOD, Civil Engineering Department, International Centre of Excellence in Engineering and Management, (ICEEM), Aurangabad delivered lecture on the theme. Earlier, Dr D C Gour, Chairman, Aurangabad Local Centre delivered the welcome address. Prof. Sandeep B Mundhe, Honorary Secretary, Aurangabad Local Centre proposed the vote of thanks.

Bareilly

Bareilly Local Centre, IEI observed World Engineering Day for Sustainable Development on the theme of the day on 4 March 2021. Mr Devesh Kumar Tiwari, Chief Engineer, PWD, Bareilly was the Chief Guest on the occasion and Mr Atul Kumar Garg, General Manager (Utilities.) IFFCO, Bareilly was the Keynote speaker. In the technical session, Dr Chhavi Sharma, Mahatma Jyotiba Phule Rohilkhand (MJPR) University, Bareilly, Mr Sovan Mohanty Shri Ram Murti Smarak Institute (SRMS), Bareilly and Mr Suhail Javed Quaraishi from Invertis University, Bareilly presented lecture on the theme and shared their views. Earlier, Mr Sudhir Gupta, Chairman, Bareilly Local Centre welcomed the Chief Guest, Keynote speaker and other dignitaries. Mr Mahendrakumar Agarwal, Honorary Secretary, Bareilly Local Centre proposed the vote of thanks.

Belapur

Belapur Local Centre, IEI in association with FCRI, Vashi observed World Engineering Day for Sustainable Development on 4 March 2021 through online mode. Mr V Ravikanth, Assistant Vice President, Reliance Industries Limited, the Keynote speaker of the day in his address explained the role of geo-synthetic materials in Sustainable Development. Earlier, Mr Keshav K Varkhedkar, Chairman, Belapur Local Centre delivered the welcome address and elaborated the theme. Dr Samir Chandrakant Nimkar, Honorary Secretary, Belapur Local Centre proposed the vote of thanks.

Bhatinda

Bharinda Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 through online platform. Dr R K Bansal, Professor, Maharaja Ranjit Singh Punjab Technical University (MRSPTU) delivered lecture on the theme of the day and discussed the importance of engineering for sustainable development in modern life. Earlier, Prof (Dr) Jagtar Singh, Chairman, Bhatinda Local Centre delivered the welcome address.

Bokaro Steel City

Bokaro Steel City Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021. Chief Guest, Mr Sanjay Sen, Chief General Manager, MECON Limited, Bokaro Unit and Member, Environmental Engineering Division Board, IEI inaugurated the function and addressed on the occasion. Mr Nitesh Ranjan, AGM (Environment), SAIL, Bokaro Steel Plant, Mr C P Sahay, Ex DGM (Traffic), SAIL, Bokaro Steel Plant and Mr Arunesh Kumat, Ex AGM (Safety), SAIL, Bokaro Steel Plant presented papers on the theme. Mr Yogendra Nath Singh, Chairman, Bokaro Steel City Local Centre welcomed the dignitaries and explained the importance of the day. Mr Deo Prasad Jha, Honorary Secretary, Bokaro Steel City Local Centre proposed the vote of thanks.

Brahmapur

Brahmapur Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March, 2021. Prof. (Dr) Ranjan Kumar Swain, Principal, Parala Maharaja Government Engineering College, Government of Odisha graced the function as Chief Guest. Chief Speaker of the event, Mr Rabindra Kumar Sahu, Deputy Director, Water & Soil Conservation Mission, Government of Odisha outlined the objectives and methodologies of soil & water conservation. Earlier, Dr Arun Kumar Padhi, Chairman, Brahmapur Local Centre delivered the welcome speech. Mr Surendra Kumar Panigrahi, Honorary Secretary, Brahmapur Local Centre proposed the vote of thanks.

Coimbatore

Coimbatore Local Centre, IEI in association with Department of Automobile Engineering, Hindusthan College of Engineering and Technology, Coimbatore observed World Engineering Day for Sustainable Development on 4 March 2021 through online platform. The Chief Guest, Mr C Prakash, Former General Manager (R&D Engine Specialist), Product Development Division, Ashok Leyland, Chennai presented a lecture on the topic 'BSVI Engine Technology'. Earlier, Mr P R Natarajan, Chairman, Coimbatore Local Centre welcomed the chief guest and participants of the webinar. Dr H Ram Mohan, Honorary Secretary, Coimbatore Local Centre, IEI delivered vote of thanks.

Dharwad

Dharwad Local Centre, IEI observed World Engineering Day for Sustainable Development on 9 March 2021. Chief Guest on the occasion, Mr K V Maglad, Superintending Engineer (Retd), Karnataka Power Corporation Limited in his address explained construction safety measures and practices. Earlier, Prof (Dr) Ramesh Laxman Chakrasali, Chairman, Dharwad Local Centre, IEI delivered the welcome address.

Durgapur

Durgapur Local Centre, IEI observed World Engineering Day for Sustainable Development on 6 March 2021. Mr Santosh Chandra, Chief Executive Officer, Essar Oil & Gas Exploration and Production Limited, Mumbai was the Chief Guest and Keynote Speaker during the function and Dr Abhiram Hens, Chemical Engineering Department, NIT Durgapur was the Guest of Honour. Earlier, Prof (Dr) Kartik Chandra Ghanta, Chairman, Durgapur Local Centre welcomed the Chief Guest, Guest of Honour, the dignitaries and the august audience. The programme was concluded with vote of thanks by Mr M K Biswal, Honorary Secretary, Durgapur Local Centre.

Faridabad

Faridabad Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 through digital mode. On this occasion, Mr Tushar Sogani, Principal Architect & Managing Director, Tushar Sogani Designs Private Limited (TSDPL), Jaipur presented lecture on the topic 'Sustainable Architecture – Power of Passive Design'. Mr Ashu Gupta, Managing Partner, Design2Occupancy Services presented lecture on the topic 'Energy Efficient Design in Buildings' and Mr Neeraj Khare, Founder Managing Director, Adishaktyai India presented lecture on the topic 'Eco friendly, Fire Safe, Low Loss & Compact Transformers for Sustainable Habitat'. Earlier, Mr Sandeep Handa, Chairman, Faridabad Local Centre delivered the welcome address and mentioned that the event is an opportunity to celebrate the important contributions of engineers and engineering to sustainable development and modern life. Mr Kuldeep Raj Gupta, Honorary Secretary, Faridabad Local Centre proposed the vote of thanks.

Ghaziabad

Observed World Engineering Day for Sustainable Development on 4 March 2021 through virtual meet. Chief Guest during the session, Mr Gaurav Vatsa, Vice President, Analytics, EXL, New Delhi presented lecture on the topic 'Data Science and its Role in transforming Small & Medium Enterprises' and elaborately explained application of data science in multidisciplinary fields. Mr R K Agarwal, General Manager, Gomti Pollution Control Unit, UP Jal Nigam was present during the function. Earlier, welcome address was delivered by Mr Jai Pal Singh, Chairman, Ghaziabad Local Centre. Mr Chitra Kumar Tyagi, Honorary Secretary, Ghaziabad Local Centre introduced the theme of the day and at the end of the session, proposed the vote of thanks.

Gorakhpur

Gorakhpur Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March 2021 through organising a webinar. Speaker during the function were, Dr Awadhesh Kumar, Department of Electrical Engineering MMMUT Gorakhpur and Prof (Dr) Brijesh Kumar, Department of Electronics & Communications Engineering, MMMUT Gorakhpur delivered lectures on the theme of the day. Mr Dharendra Chaturvedi, Chairman, Gorakhpur Local Centre delivered the welcome

address. Mr Rajesh Kumar Trivedi, Chairman, UP State Centre also graced the occasion. Mr Ved Prakash Gupta, Honorary Secretary, Gorakhpur Local Centre proposed the vote of thanks.

Jammu

Jammu Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 and organised a Seminar on the theme of the day. Mr Hem Raj, Regional Officer, NHAI (J&K), Jammu was the Chief Guest on the occasion. Mr P K Nanda, Mr B L Rawal, Mr Vinod Kumar, Mr Ranjeev Sawhney, Mr Mir Muneer Hussain and Mr Akash Dusgotra presented papers on the theme and touched various issues imperative for the engineers, planners, policy makers and public at large to adopt for sustenance of technological developments in all spheres of life without depletion of available natural resources. At the outset, Dr (Prof) Sanjay Khar, Chairman, Jammu Local Centre delivered the welcome address. Mr C Paul Sharma, Honorary Secretary, Jammu Local Centre proposed the vote of thanks.

Jamshedpur

Jamshedpur Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 through online mode. The Keynote speaker of the programme, Mr Asish Kumar Garg, Tata Steel Limited, Jamshedpur delivered lecture on the theme of the day and stated that moving towards a circular economy is a formidable challenge in a highly competitive market driven world and innovative engineering and technology solutions are crucial to the effective delivery of environmental sustainability. Earlier, Mr Anurag Saxena, Chairman, Jamshedpur Local Centre welcomed the gathering and introduced the theme to the audience. Mr Pravesh Kumar Dhawan, Honorary Secretary, Jamshedpur Local Centre proposed the vote of thanks.

Kadapa

Kadapa Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021. On this occasion, a Lecture Meeting was organised in association with Sri Venkateswara Institute of Science & Technology. Dr Kasigari Prasad, Associate Professor, Department of Electronics and Communication Engineering, Annamacharya Institute of Technology and Sciences (AITS), Rajampet delivered lecture on the theme of the day. Dr V Adinarayana Reddy, Honorary Secretary, Kadapa Local Centre welcomed the audience.

Kanpur

Kanpur Local Centre, IEI in association with The Institution of Electronics & Telecommunication Engineers, Kanpur Centre and IEEE, Uttar Pradesh Section observed World Engineering Day for Sustainable Development on 4 March 2021 through online mode. Dr Keshav Kant, Retired Professor, Department of Mechanical Engineering, Indian Institute of Technology Kanpur was the guest speaker on this occasion and delivered the Keynote lecture on the topic 'Dimethyl Ether – A Prospective Future Fuel' and explained the significance and applications of alternative fuels. Earlier, Prof (Dr) J Ramkumar, Chairman, Kanpur Local Centre delivered the welcome address. Dr Rajat Kumar Khare, Honorary Secretary, Kanpur Local Centre proposed the vote of thanks.

Kalpakkam

Kalpakkam Local Centre of the Institution observed World Engineering Day for Sustainable Development on 6 March 2021. Chief Guest, Dr Prasad Reddy, Head, Creep Studies Section, Mechanical Metallurgy Division, Materials and Metallurgy Group, Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam delivered lecture on the topic 'Creep and Fatigue Properties of 316LN Stainless Steels'. He explained the role of nitrogen content in 316LN Stainless Steel on transitions in fracture mode from transgranular failure to intergranular failures and also highlighted the factors controlling the creep-fatigue deformation. Earlier, Mr M Shanmuga Sundaram, Honorary Secretary, Kalpakkam Local Centre delivered the welcome address and at the end of the function, he also proposed the vote of thanks.

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News-in-Brief

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

STATE CENTRES

Jammu & Kashmir

In collaboration with Power Grid Corporation of India Limited, Civil Defence Budgam and J&K SDRF organised Disaster Preparedness Training and Fire Mock Drill at Grid Station Wagoora, Jammu & Kashmir on 19 January 2021. Mr Arshad Khan, General Manager, Operations, Power Grid 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 were present during the event.

Tamil Nadu

Jointly with Madurai Local and Tiruchirappalli Local Centre, IEI organised two-day International Technical Conference on 'Artificial Intelligence & Robotics : Transforming Academia to Industry' during 22-23 January 2021 through online mode. Keynote speakers, Dr Munish Jindal, Founding President, MENTORx and Founder & CEO, HoverRobotix, presented lecture on the topic 'Artificial Intelligence & Robotics: The Future is Here' and Dr Nancy Juneja, Co-founder, MENTORx and Founder RevUP Life Skills on the topic 'Life Skills & Technology: Adding New Dimensions to Life'. Guest Speaker, Ms Norma De Saint Picman, Director, NoraVision, CEO, NoraVisionDecentralized, Slovenia delivered lecture on the topic 'Global Blockchain based Art Platform'.

Telangana

Organised webinar on National Science Day on 28 February, 2021 on the theme 'Future of STI: Impact on Education, Skills and Work'. Prof Ravi Kumar Puli, Member Secretary, Telangana State Council of Science & Technology graced the occasion as Chief Guest. Mr K Shartchandra, CEO, Butterfly Edufield, Hyderabad delivered lecture on 'Science & Technology Innovations in Improving Education', Prof M L Sai Kumar, Former Dean, Institute of Public Enterprise (IPE), Hyderabad delivered address on 'Science & Technology Innovation in Imparting Skills' and Prof. G Surender Reddy, Chief Adviser, Sagar Asia Aluminium Group, Hyderabad addressed on 'Science & Technology Innovation in Transforming Work'.

Organized Dr J Purushottam Sixteenth Endowment Lecture on the topic 'Role of Climate Extremes in Water Policies and Issues' on 1 March 2021. Mr S Narasimha Rao, Chief Engineer (Retd), Inter State & Water Resources, I & CAD Department, Government of Telangana graced the occasion as Chief Guest and delivered lecture on the topic and mentioned that climate change effected irrigation sector due to degradation of the forest and rise in carbon-dioxide and carbon-monoxide and emphasized on judicious usage of water.

LOCAL CENTRES

Bareilly

Observed World Standards Day by organising webinar on 14 October 2020 on the topic 'Protecting the Planet with Standards'. Dr Chhavi Sharma, Assistant Professor, Mahatma Jyotiba Phule Rohilkhand (MJPR) University, Bareilly and Dr Hemant Yadav, Director, Future Institute of Engineering & Technology, Bareilly presented lecture on the topic.

Bhilai

Organized technical lecture meeting on 30 January 2021 through online platform on the topic 'Electrical Power Scenario in India: An Update'. Guest Speaker during the event was Dr S Bharti, Professor, Department

of Electrical Engineering, Rungta College of Engineering and Technology (RCET), Bhilai.

Organized technical webinar on 13 February, 2021 on the topic 'Importance of CAD/CAM/CAE'. Mr Rohit Trivedi, Chief Operating Officer, CAD Academy, Bhilai was the Guest Speaker on the occasion.

Dhanbad

Organised workshop on 'Self Reliant India : Science and Technology' in association with CSIR-Central Mining and Fuel Research Institute, Dhanbad on 29 January 2021 in hybrid mode. On the occasion, Mr Prabhat Kumar, Director General, Directorate General of Mines Safety, Dhanbad was the Chief Guest. Dr Pramod Pathak, Ex-Professor, IIT-ISM Dhanbad, was the Distinguished Guest and Keynote speaker. Dr Nanditesh Nilay, Author & Speaker, Founder of Training Requirement and New Concepts also delivered keynote lecture.

Gorakhpur

Organized webinar on 13 February, 2021 on the topic 'Investment Strategies for Current Economic Environment and Asset for Investment'. Speaker, Mr Shivam Nigam, Branch Manager, HDFC Asset Management deliberated lecture on the topic.

Hosur

Observed World Habitat Day on 5 October 2020. Ar V Vasudevan, Principal Consultant, Vasthu Design, Architects & Engineers, Hosur and Mr S Venkataramani, Director, Consolidate Project Management Services, Hosur delivered lectures on the theme of the day.

Observed World Standards Day in association with Society for Aerospace and Mechanical Professionals & Adhityamaan College of Engineering, Hosur on 15 October 2020. Mr P Arunraj, Technical Head, Innovation & Vave Consultant, Hosur and Dr V A Anand, Assistant Professor, Department of Logistics Management, Alagappa University, Karaikudi deliberated lectures on the theme of the day.

Organized webinar on 14 December, 2020 on the topic 'Energy Conservation & Energy Auditing'. Mr L K M Adhi, Chairman & Managing Director, Knitvel Needles Private Limited, Hosur and Mr R Dhurai, Director, Issojet Burner Private Limited, Hosur deliberated lecture on the topic.

Kanpur

In association with Uttar Pradesh Textile Technology Institute, Kanpur, The Institution of Electronics and Telecommunication Engineers, Kanpur Centre and IEEE, Uttar Pradesh Section organised lecture on the topic 'Quality Management – Zero Defect & Quality Circles' on 25 February, 2021. Mr N B Singh, Ex General Manager, British India Corporation Limited, Kanpur was the Guest Speaker on this occasion.

Kanyakumari

Organized webinar on the topic 'Artificial Intelligence Now and the Future' on 28 February, 2021. Keynote speaker, Dr S M Swamy, Graintek Limited, Nagercoil was the theme speaker.

Muzaffarpur

Organised Webinar on the topic 'Microsoft Machine Learning Tools' on 28 February, 2021. Chief Speaker on the occasion, Prof Nikhil Kumar, Government Polytechnic College, Muzaffarpur deliberated at a length the applications of machine learning in automobile, agriculture, marine etc.

Neyveli

Organised lecture meeting through online platform on 24 February 2021 on the topic 'Principles of Valuation for Civil Assets'. Speaker on the

occasion, Mr N Ayyappan, Government Registered Panel Valuer for Banks, Hosur briefed about the principles of valuation of civil assets and the key parameters to be assessed.

Palghat

Observed Energy Conservation Day on 26 December, 2020 and organized webinar on the topic 'Green Building'. Mr Rajesh K, Assistant Executive Engineer, Electrical sub Division, Kanjikode, Palakkad and Mr Madhana Mohan, Deputy Chief Electrical Engineer, Indian Railways (Retd) deliberated lectures on the topic.

Rourkela

Organised Technical Paper Meeting on 19 February, 2021 on both online and offline mode. Speaker, Dr Rama Chandra Pradhan, HoD, Food Process Engineering, NIT Rourkela explained the objective of the theme of Paper Meeting 'Drying Technology: A Viable Solution for Security of Agricultural Commodities'.

Saurashtra

Organised Memorial Lecture of Late B J Vasoya, Past President, IEI through online platform on 20 February 2021 on the occasion of celebration of 52nd Foundation Day of Saurashtra Local Centre. On the occasion, Prof (Dr) Gopal M Tank, Professor, Applied Mechanics, Government Engineering College Rajkot delivered presentation on the theme 'Performance Based Seismic Design Necessity'.

Organised Webinar on 4 March, 2021 in association with Electrical Engineering Department, School of Technology, Pandit Deendayal Energy University (PDEU), Gandhinagar on the theme 'Advancement in Hybrid Renewable Energy Systems & Challenges for their Grid Integration. Speakers during the function were Prof (Dr) Pragadesh Bhatt, Head & Associate Professor and Dr Siddharth Joshi, Assistant Professor, Electrical Engineering Department, School of Technology, PDEU Gandhinagar. Prof Bhatt deliberated his presentation on the topic 'Grid Integration of Distributed Energy Resources: Challenges and Solutions'. Dr Joshi delivered his lecture on the topic 'Trends in Hybrid Renewable Energy Power Systems'.

Salem

Observed World Telecommunication and Information Society Day on 21 May, 2020 and organised webinar on the theme of the day. Dr K Senathipathi, Lecturer (Sr Gr), Department of Electrical and Electronics Engineering, Thiagarajar Polytechnic College, Salem and Past Honorary Secretary, Salem Local Centre, IEI delivered lecture on the topic.

Observed World Environment Day on 5 June 2020 through online platform in association with Global Laboratory and Consulting Services, Salem.

Observed Royal Charter Day on 9 September 2020 through online platform. Chief Guest, Mr R Periyasamy, former Chief Manager, Thermal Power Station, NLC India Limited and former Council Member, IEI deliberated lecture on this occasion. Mr K Selvaraj, Engineering Specialist, Caterpillar Inc. deliberated lecture on the topic 'What type of Engineers Industry needs'.

Observed World Standards Day on 9 October 2020 in association with Thiagarajar Polytechnic College, Salem Ms G Bhavani, Scientist E, Bureau of Indian Standards, Chennai and Mr A Arivazhagan, Scientist E, Bureau of Indian Standards, Chennai deliberated lecture on the occasion.

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.

Tiruchirappalli

Jointly with NIT Tiruchirappalli, Computer Society of India, Tiruchirappalli Chapter, Indian Institute of Welding, Tiruchirappalli Branch, Indian Institute of Metals, Tiruchirappalli Chapter and Indian Welding Society, Southern Zone organized lecture on 9 February 2021 through virtual mode. Dr Parasuram Balasubramanian, Founder & CEO, Theme Work Analytics Private Limited, Bangalore delivered lecture on the topic 'Supply Chain Management & the Smart Factory Strategies'.

Organized lecture meeting on 16 February 2021 through virtual mode. Mr M R Ranganathan, Chairman, ABK AOTS DOSOKAI, Tamilnadu deliberated lecture on the topic 'Manufacturing Creativity – Japanese Way'.

Jointly with the Computer Society of India, Tiruchirappalli Chapter, Indian Institute of Welding, Tiruchirappalli Branch, Indian Institute of Metals, Tiruchirappalli Chapter and Indian Welding Society, Southern Zone organized lecture on 2 March 2021 through virtual mode. Dr G Jagajothi, Professor and Dean, Research, Department of ECE, Mount Zion College of Engineering and Technology, Pudukkottai delivered lecture on the topic 'Introduction to Internet of Things (IoT) and Smart Sensors' and mentioned that the IoT plays a pivotal role of an expert's technical tool by empowering physical resources into smart entities through existing network infrastructures.

Jointly with the Computer Society of India, Tiruchirappalli Chapter, Indian Institute of Welding, Tiruchirappalli Branch, Indian Institute of Metals, Tiruchirappalli Chapter and Indian Welding Society, Southern Zone organized lecture on 16 March 2021 through virtual mode. Dr Gobi R, Assistant Professor, Department of Computer Science, Christ University, Bangalore delivered lecture on the topic 'Block Chain Technology and Applications'.

Tirunelveli

Organized technical seminar on 17 February 2021 through online mode. Dr D Rojaramani, Associate Professor, Department of IT, Sethu Institute of Technology, Virudhunagar was the resource person and deliberated lecture on the topic 'IoT Based Intelligent Agriculture Field Monitoring System'.

Organized technical seminar on 20 February 2021 through online platform on the topic 'Functionally Graded Metal Matrix Composites for Engineering Applications'. Dr K Vinoth Babu, Professor, Department of Mechanical Engineering, Baselios Mathews II College of Engineering, Kollam was the resource person and delivered lecture.

Organized technical lecture on 23 February 2021 on the topic 'Security in iOS'. The resource person during the event, Ms Nitha, Project Manager, Datalogics, Chennai delivered lecture on the topic.

Organized technical seminar on the topic 'An Introduction to Commercial Vehicle Industry and Challenges Envisaged' on 27 February 2021 through online mode. Dr R Palavesa Murugan, Head of Change Management Committee, Assistant General Manager, Ashok Leyland, Chennai acted as the resource person and deliberated lecture on the topic.

Trichur

Observed World Habitat Day on 5 October 2020 through online mode. Mr S M Vijayanand, IAS (Retd), Former Chief Secretary, Government of Kerala and Dr K P Kannan, Chairman, COST FORD presented lectures on the occasion.

Observed Energy Conservation Day on 14 December 2020 through online mode. Speaker, Dr P Shaji James, Professor, Farm Power, Machinery and Energy, Kerala Agricultural University, Thirussur deliberated lecture on the topic 'Climate Change and Energy: Technological Options'.

FORA

NDRF

National Design and Research Forum, IEI, Kalasalingam Academy of Research and Education (KARE) and Engineers Without Borders (EWB) Bangalore Professional Chapter jointly organized 'Virtual Science Exhibition' on 23 January 2021. In this event, students registered for participation

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World Engineering Day for Sustainable Development 2021

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Madurai

Madurai Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021. Chief Guest, Prof (Dr) A V Ramprasad, Principal, K L N College of Engineering, Pottapalayam delivered speech on the theme. Mr S Rajagopal, Chairman, Madurai Local Centre delivered the welcome speech. Mr P Rajamani, Chairman, Electrical Engineering Division Board, IEI was present during the function. Mr R Narayanasamy, Honorary Secretary, Madurai Local Centre proposed the vote of thanks.

Meerut

Meerut Local Centre, IEI jointly with Jabalpur Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 through online mode. Chief Guest during the session, Mr V B Singh, Chairman, Civil Engineering Division Board, IEI explained the role of IEI in achieving Sustainable Development Goals (SDGs). Guest Speaker during the occasion, Mr V K Sahu, General Manager (Retd) and Principal Estate Manager, Madhya Pradesh Electricity Board expressed his views. Keynote Speaker of the day, Mr K C Jain, Chief Engineer (Retd), Government of Botswana, Zimbabwe, South Africa, in his lecture concentrated on the globalization of Indian construction industry including dimension and impact of globalization on architecture and architectural ethics. Mr Rakesh Kumar Rathore, Council Member, IEI was present. Earlier, Mr Rajneesh Kumar, Chairman, Meerut Local Centre welcomed the guests, speakers and dignitaries. Mr Tarun Kumar Anand, Chairman, Jabalpur Local Centre introduced the subject of the webinar. Prof P C Agarwal, Department of Mechanical Engineering, Oriental Institute of Science and Technology Jabalpur delivered the concluding remarks. Mr Mohan Lal Jain, Honorary Secretary, Meerut Local Centre proposed the vote of thanks.

Neyveli

Neyveli Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March, 2021 through online mode. Chief Guest, Dr M Ravichandra Babu, Director, National Power Training Institute, Shivpuri delivered lecture on the theme. Dr Babu in his lecture briefed about the installed capacity of India in renewable and non-renewable energy sectors, per capita energy consumption, transmission and distribution loss in India, different issues, challenges and opportunities in sustainable development etc. Earlier, Mr A Sekar, Honorary Secretary, Neyveli Local Centre welcomed the Chief Guest and participants and at the end also proposed the vote of thanks.

North Bengal

North Bengal Local Centre of the Institution observed World Engineering Day for Sustainable Development on 4 March 2021 by organising a table discussion on the theme of the day. Welcome address was delivered by Dr Santanu Das, Honorary Secretary, North Bengal Local Centre. Mr Goutam Bairagi and Mr G K Panda deliberated over the theme of the day on behalf of host Centre. Other dignitaries present during the occasion were Mr Asim Mahapatra, Mr P K Saha, Mr Nimai Mukherjee, Mr Amitava Ray, Mr P Roy and Mr Chinmoy Ghosh. Dr Santanu Das, Honorary Secretary, North Bengal Local Centre proposed the vote of thanks.

Palghat

Palghat Local Centre, IEI observed World Engineering Day for Sustainable Development on 7 March 2021 through online platform. Speaker, Dr P R Sreemahadevan Pillai, Director, Ahalia Group of Academic Institutions delivered lecture on the theme. Mr K Unni Krishnan, Chairman, Palghat Local Centre welcomed all. Mr A Ramesh, Honorary Secretary, Palghat Local Centre proposed the vote of thanks.

Saurashtra

Saurashtra Local Centre of the Institution in association with Shri Labhubhai Trivedi Institute of Engineering & Technology, Rajkot observed World Engineering Day for Sustainable Development on 4 March, 2021 through online platform. Speaker on the occasion, Mr Shwetal Shah, Technical Advisor, Climate Change Department, Government of Gujarat delivered lecture on the topic 'Engineering for a Healthy Planet', Mr Ranchhod K Babaria, Honorary Secretary, Saurashtra Local Centre proposed the vote of thanks.

Tirunelveli

Tirunelveli Local Centre, IEI observed World Engineering Day for Sustainable Development on 6 March 2021. Dr S Baburengarajan, Chairman, Tirunelveli Local Centre acted as resource person and delivered lecture on the theme of the day. Dr R Velayutham, Honorary Secretary, Tirunelveli Local Centre inaugurated the session.

Trichur

Trichur Local Centre, IEI observed World Engineering Day for Sustainable Development through online platform on 4 March, 2021. Prof. V A Sudhakaran, Former Professor and Head, Civil Engineering Department, Government Engineering College, Thrissur delivered lecture on the theme of the day. Earlier, Mr V G Sankaranarayanan, Chairman, Trichur Local Centre delivered the welcome address. Mr M N Sasidharan Achari, Honorary Secretary, Trichur Local Centre proposed the vote of thanks.

Upper Assam

Upper Assam Local Centre, IEI observed World Engineering Day for Sustainable Development on 4 March 2021 through online platform. On the occasion, technical papers were presented by Ms Mayuri Deka, Safety Officer, Assam Petrochemicals Limited (APL) on the topic 'Engineering for A Healthy Planet', Mr Uddipan Kayashap, HSE Officer, Duliagan Numaligarh Pipeline Limited (DNPL) on 'Innovation for Sustainability', Mr Devanga G Borah, Manager (Production), APL on 'Sea Water Desalination', Mr Rakesh Kalita, Deputy Manager (Excavation) NEC, Coal India Limited on the topic 'Sustainable Agriculture' and Mr Rakesh Rajkhowa, Senior Engineer (Mechanical), DNPL on the topic 'Human Development by Implementing ICT'. Earlier, Mr Sasanka Pratim Deka, Chairman, Upper Assam Local Centre presented welcome address. Mr Debajeet Sharma, Honorary Secretary, Upper Assam Local Centre proposed the vote of thanks.

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from schools including Egypt, Riyadh, Mauritius and Turkey. Dr V Dillibabu, Scientist, GTRE DRDO & Director, NDRF, Bangalore inaugurated the event through online mode and addressed the importance of science and support to be rendered by NDRF in near future.

National Design and Research Forum, IEI, jointly with Maharashtra State Centre, IEI organised Online Invited Talk on the topic 'Are We Future Ready? – Quantum Technology' on 30 January, 2021 on virtual mode. Dr C P Ramanarayanan, Vice Chancellor, Defence Institute of Advanced Technology (DIAT), Pune was the Theme Speaker during the event.

RDF

Rural Development Forum, IEI jointly with PRISM and in collaboration with SOIL ECO Club Shamshernagar, Hingaljanj, IBRAD and other organisations celebrated National Science Day 2021 on 28 February, 2021 on the theme 'Future of Science, Technology & Innovation(STI): Impacts on Education, Skills and Work'. As part of the programme, a residential training-cum-awareness programme was conducted from 27 February 2021.

IEI Celebrates World Water Day

Theme : Valuing Water

The World Water Day was celebrated by the Institution all over the country on March 22, 2021. Reports of celebration received from various Centres are highlighted here.

STATE CENTRES

Gujarat

Gujarat State Centre of the Institution observed World Water Day on 22 March 2021 jointly with World Federation of Engineering Organizations (WFEO), Sankalchand Patel University, Visnagar, Water Management Forum, IEI, Gujarat Energy Development Agency (GEDA) & Climate Change Department, Government of Gujarat. Chief Guest, Mr Navindhandra B Vasoya, Past President and Council Member, IEI and Member, Executive Council, WFEO sent a video message on this occasion. Guest of Honour, Mr M D Patel, Chairman, Water Management Forum, IEI was present on the occasion and addressed the audience. Keynote Speaker, Mr N B Patel, Superintending Engineer (Retd), Water Resources Department, Government of Gujarat gave presentation on the theme of the day. Dr A M Prabhakar, Principal, Gujarat Power Engineering and Research Institute, Prof (Dr) D J Shah, Director, Technical Courses, Sankalchand Patel College of Engineering (SPEC) and Dr Y S Patel, Head, Civil Engineering Department, SPEC, present during the occasion and address the audience.

Punjab & Chandigarh

Punjab & Chandigarh State Centre observed World Water Day through online platform on 22 March 2021. Mr Shivinder Singh Saini, Former Chief Engineer, Punjab Irrigation Department was the Chief Guest of the event. Mr P S Bhogal, Council Member, IEI was the Keynote Speaker and delivered lecture on the theme. Mr Bhogal focused on understand and acknowledge importance of water to modern lifestyle and described that water has an economic value in all its competing uses and should be recognized as an economic good. Earlier, Mr Sukhvir Singh Mundi, Chairman, Punjab & Chandigarh State Centre and Council Member, IEI welcomed the guests and participants. Prof (Dr) T S Kamal, Council Member, IEI also attended the webinar as special guest. Dr Baljit Singh, Honorary Secretary, Punjab & Chandigarh State Centre highlighted the importance of the day.

West Bengal

West Bengal State Centre, IEI observed World Water Day on 22 March 2021. Mr Sisir Kumar Banerjee, Past President, IEI graced the function as Chief Guest and addressed the august house. Dr Gouranga Kar, Director, ICAR-Central Research Institute for Jute & Allied Fibres, Barrackpore was the theme speaker on the occasion. In his presentation, Dr Kar elaborated upon the national and global scenario of water resources and its demand and mentioned that the challenges for making the environment free from water pollution can be mitigated through effective policy measures followed by sincere practices by individual stake holders. Mr Sandip Kumar Deb, Chairman, West Bengal State Centre welcomed the dignitaries on the dais and stressed upon the united efforts required for conservation of water to bridge the gap between demand

and supply. Mr Kalipada Das, Honorary Secretary, West Bengal State Centre proposed the vote of thanks.

LOCAL CENTRES

Bathinda

Bhatinda Local Centre observed World Water Day on 22 March 2021 through organising Webinar. Chief Guest of the day was Prof (Dr) T S Kamal, Chairman, Electronics & Telecommunications Engineering Division Board, IEI and Guest of Honour was Mr Sukhbir Singh Mundi, Chairman, Punjab & Chandigarh State Centre IEI. Speaker during the session, Dr M S Dhanya, Assistant Professor, Central University of Punjab in his lecture mentioned that water is under extreme threat due to growing population and increasing demand of agriculture and industry results worsening impacts of climate change. Earlier, Prof (Dr) Jagtar Singh, Chairman, Bathinda Local Centre welcomed the webinar participants. Mr J S Deol, Honorary Secretary, Bathinda Local Centre proposed the vote of thanks.

Belapur

Belapur Local Centre, IEI observed World Water Day on 22 March 2021 in association with Universal Engineering College, Vasai. Dr Mohan B Dagaonkar, Council Member, IEI, in his keynote address stressed on water preservation. Mr Keshav K Varkhedkar, Chairman, Belapur Local Centre elaborated the theme of World Water Day. Dr Samir Chandrakant Nimkar, Honorary Secretary, Belapur Local Centre coordinated the programme.

Faridabad

Faridabad Local Centre observed World Water Day on 20 March 2021 and organized a webinar on the occasion. Three eminent Panellists namely Mr Rtn J P Malhotra, Past Chairman, Faridabad Local Centre, IEI and CEO, Bhartiya Valves Private Limited, Faridabad, Mr Ashok Sinha, Retd. Member, CGWB & CGWA and Mr I S Chauhan, Architectural & Structural Consultant graced the occasion with their extremely enlightening and informative deliberations. Mr Sushil Kumar Bajaj, Past Honorary Secretary, Faridabad Local Centre moderated the session. Mr Sandeep Handa, Chairman, Faridabad Local Centre delivered the opening remarks and stated that the significance to observe World Water Day is to raise awareness about the global water crisis. The event was concluded with the vote of thanks by Mr Kuldip Raj Gupta, Honorary Secretary, Faridabad Local Centre.

Ghaziabad

Ghaziabad Local Centre observed World Water Day on 22 March, 2021 through digital platform as well as physically in the centre premise. Chief Guest on the occasion, Mr Sarvesh Kumar, Chief Engineer, Uttar Pradesh Jal Nigam, Ghaziabad in his lecture, discussed on ground water recharging and rain water harvesting. Mr Rakesh Kumar Sisodia, Joint General Manager, Rail India Technical and Economic Service Limited (RITES) was the Guest of Honour of the programme. Mr Ravi Kant Garg (Retd) Chief Engineer, Uttar Pradesh Jal Nigam in his address spoke about the importance of water. Mr Vijendra Vikramaditya (Retd) Chief Engineer, Uttar Pradesh Jal Nigam addressed the audience on the theme of the day and shared his experience regarding conservation of water. Mr S S Karmyal, Executive Engineer, Delhi Jal Board, explained the importance of conservation of water through 3 R's – Reduce, Recycle & Reuse. Mr Surendra Mohan Sharma, Retd Superintending Engineer, Uttar Pradesh Jal Nigam also spoke on the occasion. Earlier, Mr Jai Pal Singh, Chairman, Ghaziabad Local Centre, IEI welcomed the guests and dignitaries and highlighted the importance of World Water Day. Mr R R Tanwar, Council Member, IEI was also present during the function. Mr Chitra Kumar Tyagi, Honorary Secretary, Ghaziabad Local Centre, IEI proposed the vote of thanks.

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