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A CENTURY OF SERVICE TO THE NATION

Volume 27 Number 5

IEI Centenary Webinar

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Self Reliance and National Security: Emerging Imperatives

As the part of IEI Centenary Webinar Series, the third Webinar was organized on the theme **Self Reliance and National Security: Emerging Imperatives** on 22 July, 2020. Two erudite speakers during the occasion, Dr G Satheesh Reddy, Secretary, Department of Defence R&D, Chairman, DRDO and Director General, Aeronautical



Development Agency, DRDO Bhawan, New Delhi and Lt Gen Satish Dua, PVSM, UYSM, SM, VSM (Retd), Former Chief of Integrated Defence Staff, shared their views and expertise in a holistic manner with the audience. Er Narendra Singh, President, IEI,



graced the occasion with his august presence and presided over the function. Mr Pradeep Chaturvedi, Chairman, Interdisciplinary Coordination Committee (ICC),

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All India Seminar of Textile Engineering Division

Industrial Textiles and Characterization

Coimbatore Local Centre of the Institution, in association with PSG College of Technology, Coimbatore organized All India Seminar on the theme Industrial Textiles and Characterization under the aegis of Textile Engineering Division Board, IEI during 13-14 March, 2020. Mr T N Praveen, Managing Director, Sauber Intech, Coimbatore graced the function as Chief Guest. During his address on the topic 'Challenges of Start Up', Mr Praveen mentioned that the Indian market offers different opportunities for startups that leads to promote growth and create employment. He mentioned that over the last two decades, more startups emerged in India and the associated ecosystem has developed dynamically and support



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From the **President's Desk.....**

The adverse impact of COVID – 19 pandemic caused disruption in functioning of various entities and resulted in significant contraction in the economy. However, this has also thrown up new opportunities. The 'Make in India' programme launched by the Government of India in September, 2014 with the primary goal of making the country a global manufacturing hub has



received new impetus. Further, the ongoing geostrategic environment this year has resulted in a clarion call by our Hon'ble Prime Minister for 'Atmanirbhar Bharat' or 'Self Reliant India'. Significantly, the Prime Minister, in his Independence Day speech, noted that the time has now come to break the cycle of 'exporting raw material and importing finish goods'. This would be a future boost to the manufacturing sector in India.

With the aim to reduce imports through domestic design and development of products and services, the Government has already identified twelve sectors - textiles, auto components, food processing, agrochemicals, electronics, Aluminum & Copper production etc, where focus would be given for manufacturing indigenous state of the art products and services, which would meet the demand of Indian as well as the international market. Definitely, the five pillars of 'Atmanirbhar Bharat' will lead the country towards a new economy with quantum jump in world class infrastructure, a technology driven system and full capacity utilization of the supply chain. The country is now on the way to execute the five phase roadmap of 'Self Reliant India', that include recharging businesses with MSMEs, economic reforms for migrants and farmers, agricultural reforms through financial support, policy reforms to fast-track investment, leading towards new horizons of growth and Government reforms and enablers towards healthcare, technology driven education policy etc. Moreover, it is a national effort wherein all citizens have to play a role.

During the IEI Centenary Webinar, organized recently on the theme 'Self reliance and National Security: Emerging Imperatives', two experts, - Dr G Satheesh Reddy, Secretary, Department of Defence R&D, Chairman, DRDO & Director General, Aeronautical Development Society and Lt Gen Satish Dua, PVSM, UYSM, SM, VSM (Retd), Former Chief of Integrated Defence Staff shared their views and expertise with the audience, regarding the implications of self reliance on national security.

The 53rd Engineers Day would be celebrated on 15 September, 2020 on the theme 'Engineers for a Self-Reliant India' to commemorate the birthday of the eminent engineer and statesman, Sir M Visvesvaraya. A Central event would be virtually organized and broadcast on that day.

MATLAB for Mechanical Engineers

Karnataka State Centre, IEI in association with Department of Mechanical

Engineering, Dayananda Sagar College of Engineering (DSCE), Bangalore organized All India Seminar on the theme MATLAB for Mechanical Engineers during February 27-28, 2020 under the aegis of Mechanical Engineering Division Board, IEI. Mr Vijayalayan, Manager-CADE, MathWorks India Private Limited graced the occasion as Chief Guest and inaugurated the Seminar. In his address, Mr Vijayalan explained working principle of MATLAB software as a tool for programming,

graphs, simulations, measurement & automation and statistics. He also delivered the Keynote address during the occasion, that covered the working platforms of Mathworks, MATLAB and Simuliunk. Dr Praful P Pai, Education-Technical Evangelist, MathWorks India Private Limited, introduced MATLAB & Simulink in the field of Mechanical Engineering, He explained about

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Getting Started with MATLAB and SIMULINK for engineering applications.

The hands on session on MATLAB was conducted by Dr Hareesha N G, Assistant Professor, Department of Aeronautical Engineering. DSCE, Bangalore. During the session, different functional aspects of MATLAB and SIMULINK were deliberated, that include; Getting started MATLAB, with Linear Algebra Functions, MATLAB programming, Generating 2D Plots, Import and Export of data, getting started with SIMULINK, creating

a SIMULINK Model etc. Eminent speakers from industry and academia discussed about Modeling and Simulation, Analysis of Cooling Rate during Spray Impingement on Micro channels, application of MATLAB in agriculture, Earlier, Mr Jasmail Singh, Chairman, Karnataka State Centre and Council Member, IEI welcomed the audience.

Self Reliance and National Security: Emerging Imperatives

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IEI briefed the audience regarding the urging overview of the Seminar. The program was well attended by professionals, engineers, students from different works of life.

Dr G Satheesh Reddy in his address mentioned that with the objective to protect our national interest, self reliance in manufacturing of critical defence equipment, state of the art arms and ammunitions is the need of the hour to sustain national security and overall development of the country. The speaker emphasized more technological development in atomic energy sector, space technology, cryogenic systems and missile technology and mentioned the national achievements in the field of experimental launching of supersonic cruise missiles, longest range artilleries, development of fighter aircrafts, electronic warfare systems, ballistic missiles, satellite communications etc and recommended the identification of gap in technological development, strengthening technological eco system for more indigenous manufacturing in critical and strategic defence area and provide enhanced technological support to the industries for system development that leads to a strong national sustainable technology base, which results reduced imports and greater export. Dr Reddy further opined that more academic and industrial research in focused area of operations leads to 'Atmanirbhar Bharat', the self reliance for betterment of society at large.

Lt Gen Satish Dua, in his address mentioned the role of engineers, armed forces, defence industry, R&D institutions to provide cutting edge strategic warfare in defence production in terms of infantry, battle tanks, fighter aircrafts, warships, submarines, etc. The speaker mentioned that

the engineers play a crucial role in warfront by providing combat support to the cutting edge defence technologies including improvisation of explosives, logistics, communications, equipment, system maintenance etc. The speaker emphasized on greater participation of industries, R&D institutions and collaborative linkages with academic institutions to keep in pace with state of the art defence technologies and recommended larger role of engineering fraternity to integrate all these avenues for strengthening national security.

Er Narendra Singh, President, IEI in his address stressed on the significance to improve product quality, domestic supply chain, healthcare, education, social amenities, more investments and entrepreneurship in micro, small and medium enterprises (MSMEs) to reinforce self reliance at national level and explained national security as the security of citizens, infrastructure, energy, economy and environment. President, IEI mentioned in his address that India has a very large defence infrastructure with immense opportunities in defence manufacturing, and recommended more focus in own equipment manufacture through enhancing R&D capabilities in both private and public sectors.

Mr Pradeep Chaturvedi, Chairman, ICC in his address stressed on self reliance and national security through enhanced R&D in defence manufacturing, when engineers will play the major role to find out the best technological solutions.

Maj Gen (Dr) S Bhattacharya, Secretary and Director General, IEI moderated the session. Mr Suneel Grover, Chairman, National Skill Development Forum, IEI proposed the vote of thanks.

Load Management in Electrical Power Systems in India

Telangana State Centre of the Institution organized All India Seminar on **Load Management in Electrical Power Systems in India** during 18-19 March, 2020 at Hyderabad under the aegis of Electrical Engineering Division Board, IEI in association with Telangana State Southern Power Distribution Company Limited, Hyderabad; Northern Power Distribution Company of Telangana Limited, Warangal and Telangana State Renewable Energy Development Corporation Limited, Hyderabad. The Seminar was organized in a befitting

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manner considering the importance of the theme and participation by high profile professionals who were invited to share their views and expertise with the audience. The Seminar has helped in exchanging the views on different aspects of Load Management. Mr T Sriranga Rao, Chairman, Telangana State Electricity Regulatory Commission graced the function as Chief Guest. In his address, Mr Rao mentioned that load management plays the key role in power generation and distribution and any lenience would lead to wastage of power and thereby rise in power tariff. He further explained that there would be no need to enhance transformers' capacity or augmentation, if the load management is perfect. He added that the Indian power sector is working jointly with foreign organizations in the field of load management to benchmark the technical advancements for implementation. Dr G Rameshwar Rao, Chairman, Telangana State Centre and Council Member, IEI while presided over the Inaugural Function, mentioned that the onset of adding renewable energy along with the conventional energy has made the Load Management more responsible and challenging. He further mentioned that supplying quality power to a greater number of consumers,

without wastage of power and harming the environment is possible only with effective load management, whereas consistency in power generation could be expected through quality performance and monitoring in load dispatching system. Earlier, Mr T Anjaiah, Honorary Secretary, Telangana State Centre welcomed the audience.

Recommendations emanated from the two-day deliberations summarized as follows.

Despite problems in load management, the renewable sources of energy should be fully and preferably harnessed to extend Electrical Power supply to all citizens to meet their needs; Smart electrical power grids should be developed and operated for better sustainable operation of electrical power systems; The sources of electrical power supply should be near the district wise load centre/s and one sub-load dispatch centre should be set up at each district for better and effective load management for sustainable electrical power supply to all; Load monitoring and control need to be updated periodically with latest suitable technological developments for facilitating greater ease in operation and management of sustainable operation of electrical power systems. Development of new software/s and application of Artificial Intelligence instead

of SCADA and IT for control and monitoring of power systems need to be planned; Periodical interaction between Academicians, Professional Engineers and Practising Employee- Engineers at both central and state levels need to be facilitated to discuss various problems and evolve the best solutions for sustainable electrical power supply to all; Currently, in India, installed electrical Power capacity is around 368.65 GW against the maximum demand of 300 GW (Feb 2020). For effective load management for sustainable power supply, the loads should be developed or reorganized in such a manner that all transformers operate with their all-day efficiency near or equal to the maximum efficiency: Keeping in view the future projections for electrical power demand the Honourable Prime Minister of India has declared set target of 175 GW power development by 2022 from renewable energy sources. Better load management can be planned and achieved for sustainable electrical power supply with the load centres in it's vicinity. The State Governments may initiate necessary action to maintain minimum distance between every source of electrical power supply and the corresponding load centre.

Industrial Textiles and Characterization

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services has increased in many dimensions. Mr R P Cherian, Consultant-Marketing, PSG TECH'S COE INDUTECH, Coimbatore, presented Invited Lecture on the topic 'Opportunities in Industrial and Home Textiles'. Dr K Shabaridharan, Head - Research and Development, Kadri Wovens presented Invited Lecture on the topic 'Characterization of Comfort Properties of Cold Weather Clothing' and while highlighted different comfort characteristics of fabrics, the speaker mentioned that comfort is purely a subjective criterion, however, it can be quantified in an objective manner in terms of the properties of non-sensorial comfort characteristics. The speaker also explained that satisfactory thermal equilibrium and efficient moisture management are the most important comfort criteria for the apparels of the next century. Mr S Soundar Rajan, Fongs Technical Services, Coimbatore while delivered Invited Lecture on the topic 'Advancement in Textile Wet Processing in Exhaust Dyeing', stressed on the conservation of energy during textile processing. He explained different experimental approaches to reduce energy consumption, like solvent dyeing with different dyes on several textile substrates. Mr M Balachandar, PICANOL, Coimbatore

delivered Invited Lecture on the topic 'Technical Textile: The Way Forward' and explained different aspects of technical fabrics. Mr V Gowthaman, Assistant Manager, PPC WFB Baird & Company (India) Private Limited, Erode, delivered Invited Lecture on the topic 'Linen Yarn Manufacturing'. The Speaker explained that Fabric woven from the flax yarn is called Linen, which fabric is quite popular due to its application for sheeting, clothing and towelling. He mentioned that, being a natural insulator, linen keeps warm in the winter and cool in the summer. A Panel Discussion was organized on the topic 'Opportunities for Entrepreneurship in Textiles', when noted Panelists discussed on emerging issues of textile industry, which include acceptance of latest technology, automation, skill development for technicians and workers, role of the external support in terms of finance and mentoring to protect and safeguard innovation and so on. A Souvenir was released in this occasion by the dignitaries present on the dais. Prof (Dr) G Thilagavathi, Council Member, IEI and Chairperson, Textile Engineering Division Board, IEI, presided over the function and delivered the welcome address. Dr H Ram Mohan, Honorary Secretary, Coimbatore Local Centre proposed vote of thanks.

Heritage Architecture

Jodhpur Local Centre of the Institution organized All India Seminar on the theme Heritage Architecture during 29 February-1 March, 2020 under the aegis of Architectural Engineering Division Board, IEI. His Highness, Jodhpur, Sri Gai Singh graced the function as Chief Guest. In his address. Sri Singh explained the heritage history of Jodhpur Riyasat and recommended for an Institution for Heritage Studies. The Keynote Lecture in this occasion was delivered by Architect Sanjay Mehta on conservation of heritage structures. During the technical sessions, eminent speakers discussed on diversified topics embracing the theme and sub theme, which include; Significance of Cultural Heritage of India; Patterns and approaches in Urban Regeneration; Sustainability and Heritage; Importance of Historical Architecture with Special Reference to Kuldhara; Ancient Water Management; Application of 3D Scanning for Heritage Architecture; Construction Materials used for Conservation and Preservation of Heritage Monuments: Techniques to find Fault in Monuments by Latest Technology and Method of Rectifications; Adaptive Reuses of Heritage Buildings: An approach for Enhancing Sustainability of Historic Structures; Conservation of Tangible Cultural



Heritage through Transforming Power of Chemical Science; and so on. Mr H K Mittal, Council Member and Chairman, Architectural Engineering Division Board, IEI presided over the function and emphasized on restoration and conservation of heritage structures and monuments. A technical tour was organised in this occasion in Mehrangarh Fort, Jodhpur. Earlier, Prof (Dr) Akhil Ranjan Garg, Chairman, Jodhpur Local Centre welcomed the audience. Mr Ghanshyam Prasad Vaishnaw, Honorary Secretary, Jodhpur Local Centre proposed the vote of thanks.

All India Seminar of Electrical Engineering Division

Policies of Governments, Paradigms Challenges and Opportunities for Sustainable Electrical Power in India

Telangana State Centre of The Institution organised All India Seminar on the theme Policies of Governments, Paradigms Challenges and Opportunities for Sustainable Electrical Power in India under the aegis of Electrical Engineering Division Board, IEI during 19-20 February, 2020 at Hyderabad. Mr Ajay Misra, IAS, Special Chief Secretary, Department of Energy, Government of Telangana graced the occasion as Chief Guest and Mr N Janaiah, Vice Chairman and Managing Director, Telangana State Renewable Energy Development Corporation Limited as Guest of Honour. During his address, Mr Misra stressed on more power supply in irrigation and agriculture sector. Mr Janaiah, in his address emphasized on power

welcomed the gathering. Dr G Rameshwar Rao, Chairman, Telangana State Centre & Council Member, IEI presided over the function. Based on the active deliberations in Five technical sessions, the following recommendations are proposed in formulation of Electrical Power Systems:

Setting up facilities to train the concerned departmental staff with the objective to promote the general awareness programs on Roof-Top Solar Power and to extend the subsidies to all the interested eligible electricity users, and thus encourage more adoption for household solar installations and also to reduce the power consumption with load relief for distribution companies; For high rise residential buildings, the Government may make

it mandatory to provide LED lighting along with Roof-Top Solar Power installations during the approval of building plan, to reduce the power consumption; Promotion and use of IoT practices extensively in services to consumers and also to initiate the process of adopting smart technologies in the transmission and distribution networks to minimize power theft that results in revenue loss and promote sustainable power supply at lower tariff rates; To ensure data security, expedited knowledge transfer for proper billing. proper operations & maintenance, and replacement / retrofitting of electrical equipment/s from time to time, to reduce the T & D losses further demands urgent action; To adopt effective measures in education and practice of safety in distribution networks and supply systems to render them risk- free and zero fatality of population at large due to electrocution is of utmost

importance; To expedite fast installations of Public Battery Charging Stations for commercial and domestic users of electrical vehicles at strategic locations to reduce the CO₂ emissions demands fast action for execution; To provide a Consortium of academicians and expert senior engineers for constant interactions, exchange of ideas, support to Research & Development activities to address and generate solutions to the problems of power sector.



generation through solar, wind, rooftop, municipal solid waste (MSW) and conservation of energy. A Panel Discussion was organised in this occasion. During Valedictory Session, Mr B Vinod Kumar, Vice Chairman, State Planning Commission, Government of Telangana graced the function as Chief Guest. Mr T Anjaiah, Honorary Secretary, Telangana State Centre

Nanosensors for Medical Applications

Tiruchirappalli Local Centre of The Institution in association with Saranathan College of Engineering, Tiruchirapalli organized All India Workshop on the topic **Nanosensors for Medical Applications** under the aegis of Electronics and Telecommunication Engineering Division Board, IEI during 4-5 March, 2020 at Tiruchirapalli. The Chief Guest during the function, Dr M R Sriram Gopal, Ophthalmologist, Athreya Retinal Centre, Trichy recommended to proceed with 4 I's – Identify, Ideate, Innovate and Implement and presented a



Paper on the topic 'Nano Sensors Applications in Medicine'. Other Speakers present during the function were; Dr D Valavan, Principal, Saranathan College of Engineering, Dr M Shanmugavalli, Professor, Department of Instrumentation and Control Engineering, Saranathan College of Engineering and Dr S M Gririrajkumar, Professor and Head, Department of Instrumentation and Control Engineering, Saranathan College of Engineering. Mr R Selvaraj, Immediate Past Chairman, Tiruchirapalli Local Centre was present during the occasion and addressed the audience. Mr A Anand, Honorary Secretary, Tiruchirapalli Local Centre proposed the vote of thanks. During the technical session, Dr S Kumaravel, Professor and HoD, Department of Orthopaedics, Thanjavur Medical College presented the Paper titled 'Smart Healthcare using Sensors and wBAN' and highlighted on advancements in medical diagnosis through smart healthcare. Dr S Kumaravel, Professor and HoD, Department of Orthopaedics, Thanjavur Medical College, discussed about

the advancements in the non-invasive measurements technique that are used widely today; Dr M Anushuya, Registrar/Professor, Indra Ganesan Group of Institution, Trichy deliberated on the topic 'Nano Fabrication Techniques' and discussed various methodologies on design and fabrication of nano level sensors. Dr M Shanmugavalli, Professor, Department of Instrumentation and Control Engineering, Saranathan College of Engineering, Trichy, delivered Lecture on the topic 'Nano Sensor Fabrication'. Mr

K Sripadaraja, Intllisense Software Private Limited, Bangalore discussed on working principles of sensors and transducers. During the valedictory session, Prof (Dr) N Kumaresan, Chairman, Tiruchirapalli Local Centre and Council Member, IEI welcomed the audience.

Based on the deliberations, recommendations have been briefed as follows.

When the power-generated carbon nanotubes are compressed by the force of surrounding tissue, a voltage is generated. As more tissue grows on top of the sensors, eventually they will no longer be able to compress. In this context, the self-generating sensors with long term biocompatibility need to be developed; Role of Nano sensors extends beyond monitoring. Sensors could also be used to treat problems before they can cause damage to the body. If the sensors pick

up anything untoward, they can be programmed through a handheld device; Application of Internet of Things (IoT) with interrelated computing devices, mechanical and digital machines, objects, with unique identifiers and ability to transfer data over a network without human-to-human or human-to-computer interaction should be accelerated; Wearable low power consuming devices which can be used to monitor various measurements can be used for medical purpose also. Such small wearable devices can acquire / transmit signals and assessed from a distance. For example, an Accelerometer or Gyrometer can assess movements. To stop the activity, an alarm may be raised or a timer can be used to capture the image of the individual or send signals and obtain output; For senior citizens in particular, Telemedicine service is the need of the hour that enables doctors to diagnose and treat seniors at their home. More such devices can be made for mankind, for more efficient diagnosis and prevention of diseases.

All India Workshop of Metallurgical and Materials Engineering Engineering Division

Material Informatics & Soft Computing Application using Machine Learning & FEA in Materials

Salem Local Centre of The Institution in association with the Department of Mechanical Engineering, Sona College of Technology, Salem organized All India Workshop on Material Informatics & Soft Computing Application using Machine Learning & FEA in Materials under the aegis of Metallurgical and Materials Engineering Division Board, IEI during 13-14 March, 2020. Dr D Senthilkumar, Professor & HoD, Department of Mechanical Engineering,

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Sona College of Technology, Salem while delivered the Keynote address, explained different aspects of cognitive systems, different approaches in Machine Learning and Statistics for problem solving etc. Dr K Venkatesh Raja, Associate Professor, Mechanical Engineering Department, Sona College of Technology, Salem and Organising Secretary, in his address provided a comprehensive overview of Machine Learning principles,

Supervised, Unsupervised and Reinforcement Learning Algorithms, descriptors and databases in material science. Dr J Akiladeshwari, Professor & HoD, Department of Information Technology, Sona College of Technology, Salem delivered Lecture on the topic 'Applications of Machine Learning Techniques'. Mr L Gokulnathan, Assistant Professor, Mechanical Engineering Department, Sona College of Technology, Salem deliberated Lecture on the topic 'Applications of FEM in

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One Day Seminars/Workshops Conducted by Various Centres of IEI

Gwalior

The Institution of Engineers (India), Gwalior Local Centre organized One day Workshop on the theme **Reverse Engineering** on February 23, 2020 under the aegis of Mechanical Engineering Division Board, IEI at AMITY University, Gwalior. Chief Guest during the function, Dr C P Jawahar, Professor



and Head, Mechanical Engineering Department, Amity University explained. Reverse Engineering, also called back engineering, as the process by which a man-made object is deconstructed to reveal its designs, architecture, or to extract knowledge from the

object; similar to scientific research, the only difference being that scientific research is about a natural phenomenon. Maj Gen S C Jain, VSM (Retd) in his Lecture explained Reverse Engineering as the process of duplicating an existing component, subassembly, or product, without the aid of drawings, documentation, or computer model and can be viewed as the process of analyzing a system to identify the system's components and their interrelationships. Mr Pankaj Mishra, in his presentation mentioned that Reverse Engineering is applicable in the field of mechanical engineering, electronic engineering, software engineering, chemical engineering and systems biology. Mr Mishra explained that Reverse Engineering in software applications help to improve the understanding of the underlying source code for the maintenance and improvement of the software and relevant information can be extracted in order to make a decision for software development and graphical representations of the code, which can provide alternate views regarding the source code and help to detect and fix a software bug or vulnerability. Dr Snehal Jain, Professor, Physics Department, Amity University, Gwalior explained that during designing an object from scratch, an engineer will draw up a design specification and produce drawings from which the item is constructed. Conversely, with Reverse engineering, the design engineer starts with the final product and works through the design process in the opposite direction to arrive at the product design specification. During the process, vital information about the design concept and manufacturing methods are discovered. Ms Dilveen Kaur Sachdeva, Bio Technology Department, Amity University, explained that reverse engineering involves acquiring three-dimensional positional data in the point cloud and there are many ways of gathering valuable dimensional information about the product, but using an accurate 3D measuring system is paramount. Further, the speaker mentioned that the accuracy of the captured data will impact the quality and deviation of the Reverse Engineered model when compared to the original.

Earlier, Mr Prabhat Bhargava, Chairman, Gwalior Local Centre welcomed the august audience. Mr P Y Khanwilkar, Honorary Secretary, Gwalior Local Centre proposed the vote of thanks.

South Gujarat

South Gujarat Local Centre of the Institution in association with Dr S & S S Ghandhy Government Engineering College, (DGGEC) Surat organized One Day Workshop on the theme **Technology Business Incubators: Sustained Model for Entrepreneurship & Start-up** under the aegis of Interdisciplinary Coordination Committee (ICC) IEI, on 3 March, 2020. Dr A A Shaikh, Professor, Department of Mechanical Engineering, SVNIT, Surat graced the function as Chief Guest. Prof Shaikh in his address emphasized on career building as an entrepreneur and opined that the students should be motivated to be more innovative and venture oriented that leads them to initialize start-ups through novel ideas accomplishing projects with societal benefits. He further shared the information regarding various start-up policies of Government

of India. Dr Neha Sharma, Professor (Microbiology), Dean (Research and Development), Chief Executive Officer-MSME Incubation Centre, Maharishi Markandeshwar Medical College and Hospital



(MMMC&H), Maharishi Markandeshwar University, Solan, the Keynote speaker during the occasion delivered Lecture on 'Start up: Latest Buzzword for Techno commercial Business Model". Her session sensitized the participants and aspiring entrepreneurs, to the journey of entrepreneurship and the demands thereof. Her Lecture provided the basic understanding of the skill sets and knowledge required for undertaking the entrepreneurial journey right from getting an idea and validating it, assessing the feasibility of the idea, understanding markets, operations, financial planning raising resources and setting up of the company, building and managing teams. During technical session, she also delivered a Lecture on "Basics of a Business" Plan: Ideation and Commercialization" with the objective to appreciate the potential impact of budding entrepreneurs to take up innovative projects and guiding them to effectively implement the same. Prof K D Panchal, Senior Faculty, Mechanical Engineering Department, DGGEC, Surat, in his address, aimed to empower the participants with programme tools and techniques to enhance creative thinking and innovation and discussed some important aspects of entrepreneurship. Earlier, Mr Kirti Hiralal Shethna, Chairman, South Guiarat Local Centre and Council Member, IEI welcomed all. Mr. Dipak Gomanbhai Patel, Honorary Secretary, South Gujarat Local Centre proposed the vote of thanks.

Material Informatics & Soft Computing Application using Machine Learning & FEA in Materials

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Materials Engineering' and talked about rapid increase in usage of FEM in Materials Engineering and the necessity of learning technologies to interact with machine. Dr A Kumaravel, Professor & HoD, Mechanical Engineering, KSR College of Technology, Namakkal presented Lecture on the topic 'Finite Element Modelling on Smart Materials related Approaches and their Applications'. Dr M Piramanandhan, Manager (R&D), ESAB Industries Ltd, Chennai delivered Lecture on the topic 'Non linear FEA for Heavy Industrial

Product Design with Machine Learning Approach'. Mr S Prakash, Senior Engineer (R&D), Micromatic Grinding Technologies Ltd, Bengaluru delivered the valedictory address. Earlier, Mr S Loganathan, Honorary Secretary, Salem Local Centre welcomed the gathering and briefed about the theme of the Workshop. Dr K Venkatesh Raja, Organizing Secretary proposed the vote of thanks.

Existing Scenario in Chemical and Petrochemical Engineering Sources for Sustainable Development

Salem Local Centre of The Institution in association with Department of Petrochemical Engineering, Mahendra Institute of Engineering and Technology, Mallasamudram, Namakkal organized All India Seminar on Existing Scenario in Chemical and Petrochemical Engineering Sources for Sustainable Development under the aegis of Chemical Engineering Division Board, IEI during 9-10 March, 2020. Dr R Samson Ravindran,

Executive Director, Mahendra Group of Institutions, Namakkal, while delivered the inaugural address, mentioned the technical issues and opportunities in Indian chemical industry, which is a capital intensive industry, that plays a significant role in the global economic and social development. The speaker explained further that the diversification within the chemical industry is large and covers more than eighty thousand commercial products. He mentioned that Indian chemical industry comprises of both small scale

as well as large scale units, and the large scale units are able to set up capital intensive projects with long gestation periods, while the fiscal incentives provided to small scale units earlier led to development of large number of small and medium enterprises. Dr M Senthilkumar, Principal, Mahendra Institute of Engineering and Technology addressed about the scope and opportunities in chemical and petrochemical engineering

sources for sustainable development. Dr K Jeyajothi, Head, Department of Petrochemical Engineering, Mahendra Institute of Engineering and Technology, Namakkal and Convener of the event addressed the gathering on the theme. Earlier, Mr D Arul Selvan, Chairman, Salem Local Centre welcomed the gathering and emphasized on the sources of petrochemical engineering sources for sustainable development. During technical sessions, Dr T Raju, Deputy Director, Central Electro Chemical Research Institute (CECRI), Karaikudi delivered the Keynote Lecture on the topic 'Chemical and Petrochemical Engineering Sources for Sustainable Development – Global View'. Dr S Chittibabu, Scientist, IICPT, Tanjore delivered Lecture on the topic 'Chemical and Petrochemical Engineering Equipments and Tools'. Mr Shanmugam, Executive Engineer, Thrumalai

Chemicals, Ranipet, Vellore delivered Lecture on the topic 'Chemical & Petro Chemical for Examination'. The workshop session 'Existing Scenario in Chemical and Petrochemical Engineering Sources for Sustainable Development' was coordinated by Mr Muruganandham, Assistant Manager, Mangalore Refinery and Petrochemicals Limited, Mangalore. During Valedictory session, Mr Annadhasan, Production Manager, DCW Limited, Tuticorin delivered the valedictory address.



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Webinars

Water Regeneration and Reuse: Experiences

Gujarat State Centre, IEI in association with Department of Civil Engineering, Indus University, Ahmedabad organized Webinar on the topic **Water**



Regeneration and Reuse: Experiences on 20 June, 2020 and the event was supported by DWA Germany & Water Management Forum, IEI. Esteemed speakers and experts from Professional Bodies, Government Organizations, Academia from India and Germany were deliberated on the topic. Mr Navinchandra B Vasoya, Past

President, IEI graced the occasion with his august presence and delivered the welcome address. Distinguished speakers, who had shared their views and expertise with the audience, include: Dip. Ing Ruediger Heidebrecht, Water & Training Expert, DWA Hennef, Germany; Dr Heera Lal, IAS, Additional Mission Director, National Health Mission, UP and Former District Magistrate, Banda; Mr M D Patel, Chairman - BOG, WMF & Chief Engineer, Sardar Sarovar Narmada Nigam Limited, Government of Gujarat and Prof Dr.- Ing Anupam Kumar Singh, Director, ITE, Indus University.

Blockchain Technology: Internals and Mechanics

A Webinar was organized by The Institution of Engineers (India), Uttar Pradesh State Centre on 28 June 2020 on the topic **Blockchain Technology: Internals and Mechanics**. Mr Anupam Tiwari, the speaker during the function covered essential basics about Blockchain Technology followed by in-depth working principle of Bitcoin Blockchain. The Webinar covered how crypto currencies and Blockchain technology intersect with banking, healthcare, logistics, estate ownership, supply chain domains etc. The Webinar was just not confined to theoretical perspectives but extended to explain the basics with the help of simulations on various aspects of Hashing, concepts of Nonce, Mathematical cryptographic relations between blocks etc. Earlier, Mr Rajesh Kumar Trivedi, Chairman, Uttar Pradesh State Centre and Council Member, IEI welcomed the audience. Mr V B Singh, Council Member, IEI briefed about this evolving technology to the participants. The Webinar concluded with the vote of thanks by Mr Prabhat Kiran Chaurasia, Honorary Secretary, Uttar Pradesh State Centre.

Industry 4.0/5.0

West Bengal State Centre, IEI organized a Lecture Meeting through Webinar on the topic **Industry 4.0/5.0** on 4 July, 2020. Speaker, Mr Sugata Bandyopadhyay, Consultant, Tata Consulting Engineers Limited in his speech mentioned that the present pandemic situation results deep impact on the industrial growth of the country and remote working with automated operations become the sustainable solution. The speaker lucidly explained the functional domain of Industry 4.0 and Cyber Physical Systems and mentioned that Industry 5.0 ushered in collaboration between man and

Due to COVID 19 outbreak, IEI has organised Seminars and Conferences in online platform. Brief reports of the Technical Activities as received from various Centres are reported hereunder.

machine, that leads to the roadmap for sustainable business operations. Mr Subhash Chandra Rudra, Council Member, IEI was also present during the session and addressed the audience. Earlier, Mr Sandip Kumar Deb, Chairman, West Bengal State Centre and Council Member, IEI welcomed the speakers and audience. Mr Kalipada Das, Honorary Secretary, West Bengal State Centre proposed the vote of thanks.

COVID-19 Pandemic-Challenges to the Society, Way Forward and Methods of Engineering Solutions

West Bengal State Centre, IEI organized a Panel Discussion on the topic COVID-19 Pandemic-Challenges to the Society, Way Forward and Methods of Engineering Solutions through Webinar on 25 July, 2020. Eminent Panelists during the occasion include; Dr Keya Mukhopadhyaya, Post Doctoral Fellow, University of Texas Health Science Centre, San Antonio, Texas, USA; Dr Anirban Mitra, Faculty, Institute of Genetic Engineering, West Bengal, and Mr Saibal Kumar Mitra, Associate General Manager, F Harley & Company Private Limited. Prof Nitosh Kumar Brahma, Former Professor, IIT Kharagpur & Convenor, Chemical Engineering Division, West Bengal State Centre was the moderator during the session. Mr Anirban Datta, Convenor, introduced the speakers and moderator to the audience. Earlier, Mr Sandip Kumar Deb, Chairman, West Bengal State Centre and Council Member, IEI delivered the welcome address. Mr Kalipada Das, Honorary Secretary, West Bengal State Centre proposed the vote of thanks.

Basics of Refrigerants



Agra Local Centre, IEI in association with ISHRAE, Agra Sub Chapter organized a Webinar on 3 July, 2020 on the topic **Basics of Refrigerants**. Speaker of the day, Mr Kapil Singhal, Managing Director, B P Refcool Private Limited, Gurugram, Haryana delivered Lecture on the topic and explained about different

refrigerants and its impact on environment. Earlier, Dr Ashok Yadav, Chairman, Agra Local Centre welcomed the speaker and participants and thrown light on the necessity of eco friendly refrigerants for environment.

Environmentally Friendly Machining

Agra Local Centre, IEI in collaboration with Mechanical Engineering Department, Raja Balwant Singh Engineering Technical Campus Bichpuri, Agra organized Webinar on the topic **Environmentally Friendly Machining** on 28 June 2020. Dr Vikas Upadhyay, Professor, Department of Mechanical Engineering, IIT Patna was the Keynote speaker during the function. Dr Amit Agrawal, HoD, Mechanical Engineering Department, RBS Engineering Technical Campus Bichpuri welcomed the Keynote speaker and all present in the Meeting as Coordinator of Webinar. Mr Devendra Singh Chaudhary, Honorary Secretary, Agra Local Centre proposed the vote of thanks.

Computer is Shaping the New Engineering

A National Webinar on the theme **Computer is Shaping the New Engineering** was organized by Bareilly Local Centre through online platform on 5 July, 2020. The Chief Guest & Keynote Speaker during the function, Prof Rajat



Moona, Director, Indian Institute of Technology Bhilai delivered Lecture on the topic wherein he explained that digital adoption is a massive opportunity for companies that leverage the right technologies. He also highlighted the new trends in shaping the future of engineering, which include; Continued Industry

Digitization, Cloud Computing, VR and Immersive Architecture, Big Data and Smart Cities, Architecture Robots and 3D Printers, Sustainability, Artificial Intelligence, etc. Earlier, Mr Sudhir Kumar Gupta, Chairman, Bareilly Local Centre delivered the welcome address. Mr K B Agrawal, Founder Chairman, Bareilly Local Centre proposed vote of thanks.

Recent Trends in Antenna Design Using CAD Tools

The Institution of Engineers (India), Coimbatore Local Centre organized Webinar on 12 June, 2020 on the topic Recent Trends in Antenna Design Using CAD Tools. Speakers during the session were Dr A Amsaveni, Professor, Department of Electronics and Communication Engineering (ECE), Kumaraguru College of Technology, Coimbatore and Dr S Sasikala, Associate Professor, Department of ECE, Kumaraguru College of Technology, Coimbatore. Dr A Amsaveni deliberated on the topic 'Antenna Basics and Design Concepts'. Mr R Darwin presented a Lecture on 'Antenna Simulation Software: An Overview' and explained about the Antenna simulation software used for antenna design. Dr Nesasudha presented a Lecture on 'Metamaterial Antenna' and explained in detail about the properties of metamaterials, including permittivity, permeability and index of refraction. Mr Venkatesh Dayanidhi deliberated on the topic '5G Antenna' and provided an overall view about Maxwell's Equation regarding microwave generation. Earlier Mr P R Natarajan, Chairman, Coimbatore Local Centre and Council Member, IEI delivered the welcome address. Dr H Ram Mohan, Honorary Secretary, Coimbatore Local Centre proposed the vote of thanks.

Three-day Special Lecture Meeting

Coimbatore Local Centre, IEI in association with Department of Electrical and Electronics Engineering and Department of Computer Science and Engineering, PSG College of Technology, Coimbatore organised **Three-day Special Lecture Meeting** during July 20-22, 2020. Chief Guest during the function, Mr R Shriram, Software Engineer, Wells Fargo, Bangalore delivered Lecture on 'Big Data Analytics'. Dr G Sudha Sadasivam, Professor and Head, Department of Computer Science and Engineering, PSG College of Technology, Coimbatore and Ms B Sathya, Assistant Professor, Department of Electrical and Electronics Engineering, PSG College of Technology, Coimbatore were also present during the Meeting. Earlier, Mr P R Natarajan, Chairman, Coimbatore Local Centre & Council Member, IEI welcomed the audience. Dr H Ram Mohan, Honorary Secretary, Coimbatore Local Centre proposed the vote of thanks.

Entrepreneurship & Innovation Support through MSME

Durgapur Local Centre, IEI organized Centenary Celebration Technical Talk through organizing a Webinar on the topic **Entrepreneurship & Innovation Support through MSME** on 25 July, 2020. The Speaker, Dr Pradosh Kumar Adhvaryyu, Director, Siliguri Institute of Technology, while deliberated over

the topic, covered the role of MSME, IPR, Entrepreneur support schemes, Incubation schemes, different schemes for financial assistance etc. Earlier, Prof (Dr) Kartik Chandra Ghanta, Chairman, Durgapur Local Centre and Council Member, IEI welcomed the guest speaker and all participants and mentioned MSME sector as the most vibrant and dynamic industrial sector contributing significantly to the GDP. Mr M K Biswal, Honorary Secretary, Durgapur Local Centre proposed the vote of thanks.

Green Technology

Faridabad Local Centre, IEI in association with J C Bose University of Science and Technology, YMCA, Faridabad organized Webinar on the topic **Green Technology** on 18 July 2020. Prof S N Singh, Vice Chancellor, MMM University of Technology, Gorakhpur presented Lecture on the topic 'Challenges in Smart Grid Implementation'. Prof B K Panigrahi, Department of Electrical Engineering, IIT Delhi presented Lecture on 'AI and Machine Learning Applications in Smart Grid' and mentioned that AI and Machine learning has the power to turn large volumes of low quality grid data into a goldmine of leading edge insights that can transform grid operations and drive efficiency beyond all expectations. Mr Sandeep Handa, Chairman, Faridabad Local Centre in his opening address presented a brief introduction on Green Technology.

The Importance of Tubewells & Pumpsets in Irrigation System

Gorakhpur Local Centre, IEI organized a Lecture Meet through Webinar on the topic **The Importance of Tubewells & Pumpsets in Irrigation System** on 18 July, 2020. Keynote speakers during the occasion were Mr Prateek Ranjan Chaurasia, Chief Engineer (Retd.), Minor Irrigation, Government of Uttar Pradesh and Mr Rama Shankar Gupta, Executive Engineer, Tubewell Irrigation Department, Uttar Pradesh. Mr Chaurasia in his address explained different aspects of ground water irrigation. Mr Rama Shankar addressed about the dynamics of ground water. Earlier, Mr Dhirendra Chaturvedi, Chairman, Gorakhpur Local Centre welcomed all. Mr Ved Prakash Gupta, Honorary Secretary, Gorakhpur Local Centre introduced the distinguished speakers and proposed the vote of thanks.

Reimaging India in the context of Cyber Security Threats

Jabalpur Local Centre, IEI organized Webinar on the topic Reimaging India in the context of Cyber Security Threats on 28 June 2020. Chief Guest, during the session Mr Ankit Shukla, Superintendent of Police (Cyber Cell), Jabalpur explained the need for social awareness about cybercrime to protect from online fraud. Guest of Honour, Mr Ashutosh Agrawal. Managing Director, Globe Teleservices Limited spoke about the cyber challenge generated by Voice and SMS. Keynote address delivered by Mr Bhupesh Dehariya, Chief Executive Officer, AEGIS. Guest speaker, Mr Ankit Anand, Senior Manager, Reliance Jio Infocomm Limited also deliberated Lecture on the topic. Mr Rakesh Kumar Rathore, Council Member, IEI was present during the function and addressed the audience. Dr Mukta Bhatele, Convener, Mr Vedant Shrivastave, Organising Secretary, Mr Shobhit Verma, Joint Organising Secretary and Mr Prakash Chandra Dubey, Honorary Secretary also present in the meeting. Earlier, Mr Tarun Kumar Anand, Chairman, Jabalpur Local Centre delivered the welcome address. Dr S M Ali, Director (Membership), IEI proposed vote of thanks.

Technical Education in Post COVID Era

Kollam Local Centre, IEI conducted a Webinar on the topic **Technical Education in Post COVID Era** on 23 July, 2020. Dr S Jose, Principal, Albertian Institute of Science and Technology, Kochi while deliberated on the topic, explained in detail the well acclaimed web-based education

platforms like NPTEL, SWAYAM, MOOC, COURSERA and the like. The speaker highlighted the challenges inherent to the online mode of education and put forth the likely remedial measures to face those challenges. Mr K Sivadasan, Chairman, Kollam Local Centre inaugurated the Webinar and Mr K Rajan, Honorary Secretary, Kollam Local Centre proposed vote of thanks.

Solar Power

Kota Local Centre, IEI organized Webinar on **Solar Power** on 11 July, 2020. Keynote Speaker during the session, Mr Ankit Agarwal, Surdai Solar, Mumbai gave a presentation on Solar Energy including solar panels, components, direct supply of current to Grid etc. Mr Anand Bardava, Chairman, Kota Local Centre welcomed all present in the meeting and explained the significance of Solar Power. Mr Sunil Bohra, Honorary Secretary, Kota Local Centre proposed the vote of thanks.

Digital Security

A Webinar was organized by Kota Local Centre, IEI on the topic **Digital Security** on 13 June, 2020. Speaker, Mr Gaurav Sharma, Technical Member, IT Department, Kota gave a presentation and narrated about the cyber security. Mr Sunil Bohra, Honorary Secretary, Kota Local Centre proposed vote of thanks to all participants.

COVID-19: Opportunities in Disaster

A Webinar was organized by Meerut Local Centre on the topic **COVID-19**: **Opportunities in Disaster** on 22 July, 2020. Speaker of the day, Mr S K Kumar, Chairman, Indian Water Resources Society, Meerut Chapter in his address mentioned the declining trend of water pollution, low CO_2 emission due to minimum human interaction during pandemic



days and suggested different measures to retain pollution free water and air. Mr Rajneesh Kumar, Chairman, Meerut Local Centre welcomed all participants and highlighted the importance of the Webinar.

Emerging Opportunities and Challenges in Grid/Off-Grid PV Application for Developing EV Charging Infrastructure

Silchar Local Centre, IEI organized Webinar on the topic **Emerging Opportunities and Challenges in Grid/Off-Grid PV Application for Developing EV Charging Infrastructure** on 25 July, 2020. Speaker during the function, Dr Amritesh Kumar, Assistant Professor, Electrical Engineering, NIT Silchar discussed about the fundamentals of electric vehicles (EV) charging power sources, various standards available for EV's charging etc. The speaker further explained off grid architecture and grid connected architecture of the EV charging system Earlier, Mr Gautam Dutta Choudhury, Chairman, Silchar Local Centre welcomed all participated in the meeting.

Scanning Electron Microscopy: A Failure Analysis Tool

Tiruchirapalli Local Centre, jointly with Tamilnadu State Centre of the Institution in association with IIM, IWS, IIW, Tiruchirappalli organized a Technical Lecture through Webinar on 23 June 2020. Dr K Santhy, Head and Associate Professor, Department of Materials and Metallurgical Engineering, Institute of Technology and Engineering, Indus University, Ahmedabad, Gujarat delivered the Lecture on the topic **Scanning Electron Microscopy**: A Failure Analysis Tool. The speaker explained the importance of failure

analysis of engineering materials in industries to determine the root cause of failure and for product development and mentioned that Scanning Electron Microscopy (SEM) is an inevitable tool in failure analysis, which



helps for detailed documentation via macro and micrographs, composition of the phases, elemental and second phase distribution, fracture origin, director of propagation and surface. Earlier, Prof (Dr) N Kumaresan, Chairman, Tiruchirapalli Local Centre and Council Member, IEI welcomed the gathering. Dr S Dharmalingam, Mr R Selvaraj, Past Chairmen of the host Centre were also present during the occasion.

Mr Singaravel, Vice Chairman, IWS, South Zone & Former AGM, BHEL, Tiruchirapalli summarized the presentation and proposed vote of thanks.

Superconductor based Power Cable: Future of Indian Power Grid

Tiruchirapalli Local Centre jointly with Tamilnadu State Centre and Madurai Local Centre, IEI organized Technical Lecture through Webinar on 21 July 2020. Dr Abhay Singh Gour, Assistant Professor, Cryogenic Engineering Centre, IIT Kharagpur delivered Lecture on **Superconductor based Power Cable: Future of Indian Power Grid** and explained that electrical power generation, effective transmission and its distribution are one of key

contributors towards economic growth of any country. The speaker also described in depth technical challenges involved in design and development of HTS cables and some of the solution to the said problems, comparison of HTS cable with conventional Copper based cable, glimpses of other HTS based power devices and their



implementation by PGCIL in India, etc. Earlier, Mr R Ramdoss, Chairman, Tamilnadu State Centre and Council Member, IEI and Mr S Rajagopal, Chairman, Madurai Local Centre and Council Member, IEI welcomed the audience. Prof (Dr) N Kumaresan, Chairman, Tiruchirapalli Local Centre and Council Member, IEI presided over the session. Mr R Narayanasamy, Honorary Secretary, Madurai Local Centre proposed the vote of thanks.

Renewable Energy Potential, Achievement, Opportunities and Government Initiatives

Udaipur Local Centre, IEI organized a Technical Talk through organizing Webinar on the topic Renewable Energy Potential, Achievement, Opportunities and Government Initiatives on 19 July 2020. Mr Basanti Lal Khamesara, Former Managing Director, Jodhpur Discom and Chairman, 'Jain Engineers Society' graced the function as Guest of Honour, Keynote speaker of the function, Mr Sanjeev Jain, Chief Engineer, Chattisgarh State Renewable Energy Development Agency Raipur in his address mentioned that India will lead the world by achieving a target of 175 thousand MW of renewable energy generation by 2022 and will reduce CO₂ emission by about 3 billion tones by achieving 40% energy production through non-fossil fuel by the year 2030. Mr S K Calla, Council Member, IEI & Former Chairman, Rajasthan Electricity Generation Corporation and Mr Akhilesh Jain, Former Managing Director, REAL, also shared their views. Earlier, Mr Yawanti Kumar Bolia, Chairman, Udaipur Local Centre welcomed all dignitaries. Mr Chandra Prakash Jain, Honorary Secretary, Udaipur Local Centre proposed vote of thanks.

IEI Celebrates

WÖRLD ENVIRONMENT DAY

2020

Theme: Biodiversity

World Environment Day was celebrated by the Centres of the Institution all over the country on 5 June, 2020. Brief accounts of the celebration as received from various Centres are reported hereunder.

STATE CENTRE

Telangana

Telangana State Centre of the Institution celebrated World Environment Day in association with Warangal Local Centre on 5 June, 2020. A Panel Discussion was organized in this occasion through Webinar on the theme 'Biodiversity'. Er Narendra Singh, President, IEI, the Chief Guest during the function insisted to protect nature and emphasized that COVID-19 is wrath of the nature on human race due to the negligence in nurturing and protecting environment. Other Panelists were Dr M Velan, Chairman, ENDB. IEI. Dr R Hampaiah. Chairman. Andhra Pradesh Biodiversity Board. Mr P Raghuveer, IFS, Vice Chairman and Managing Director, Telangana State Forest Development Corporation, Smt C S Ramalakshmi, IFS(Retd), Advisor, Centre for Innovations in Public Systems (CIPS), Dr K V Java Kumar, Professor (HAG), Department of Civil Engineering, National Institute of Technology, Warangal and Prof (Dr) Raman Saravanane, Chairman, Puduchery State Cente and Council Member, IEI. Dr P G Sastry, Director & Head, Learning and Development, Ramky Group, Hyderabad was the moderator during the session. Earlier, Dr G Rameshwar Rao, Chairman, Telangana State Centre and Council Member, IEI welcomed the audience. Dr Chintham Venkaiah, Chairman, Warangal Local Centre, IEI introduced the Moderator and Panelists. Mr T Anjaiah, Honorary Secretary, Telangana State Centre proposed the vote of thanks.

LOCAL CENTRES

Gorakhpur

World Environment Day was celebrated by The Institution of Engineers (India), Gorakhpur Local Centre on 5 June, 2020 through Webinar. Speaker during the session, Prof (Dr) Govind Pandey, Dean, Civil Engineering Department, Madan Mohan Malaviya University of Technology,



Gorakhpur in his address mentioned about balancing between development and environment and focused on more plantation of trees. Speaker during the session, Dr Siraz Wajih, President, Gorakhpur Environmental Action Group stressed on sustainable bio-diversity. Earlier, Mr Dhirendra Chaturvedi, Chairman, Gorakhpur Local Centre welcomed the audience. Mr Ved Prakash Gupta, Honorary Secretary, Gorakhpur Local Centre proposed vote of thanks.

Gwalior

Gwalior Local Centre, IEI celebrated the World Environment Day on 6 June 2020. Speaker during the function, Mr U S Pandey, Retired Superintending Engineer, while elaborated environment. about mentioned about hydrosphere, lithosphere & biosphere, micro and macro environment, physical and biotic environment. Mr R K



Khetan, Visiting Professor, Vikrant Institute of Technology and Management mentioned that COVID-19 proved that, if biodiversity destroyed, then the system supporting human life will also be destroyed. Earlier, Mr Prabhat Kumar Bhargava, Chairman, Gwalior Local Centre delivered the welcome address. Mr P Y Khanwilkar, Honorary Secretary, Gwalior Local Centre proposed the vote of thanks.

Jabalpur

Jabalpur Local Centre of the Institution celebrated World Environment Day on 5 June, 2020 through organizing a Webinar. Mr Ajay Vishnoi, Member, Madhya Pradesh State Legislative Assembly and Former Minister, Government of Madhya Pradesh graced the function as Chief Guest and Mr V Kiran Gopal, IAS, Managing Director, Madhya Pradesh



Poorv Kshetra Vidyut Vitran Company Limited, Jabalpur, the Guest of Honour. Dr R K Shrivastava, Head, Department of Environmental Science, Government Science College, Jabalpur deliberated the Keynote address. Mr Vijay Solanki, Water Management Forum, Ahmadabad, Mr Gyanendra Rawat, President, Rashtriya Paryavaran Suraksha Samiti and Mr Parag Mate, Entrepreneur also delivered Guest Lectures during the function. Mr Rakesh Kumar Rathore, Council Member, IEI was also present in the occasion. Earlier, Mr Tarun Kumar Anand, Chairman and Mr Prakash Chandra Dubey, Honorary Secretary, Jabalpur Local Centre welcomed the honourable guests, speakers and participants.

Kalpakkam

Kalpakkam Local Centre of The Institution observed World Environment Day on 4 June 2020. Arulanandakumar, Dr Environmental Scientist. IGCAR delivered Lecture on 'Biodiversity', during the occasion. Mr M Shanmuga Sundaram, Honorary Secretary, Kalpakkam Local Centre welcomed the gathering.



Kochi

The Institution of Engineers (India), Kochi Local Centre celebrated World Environment Day on 5 June, 2020 through organizing a Webinar. Keynote speaker, Prof (Dr) G Madhu, Past Chairman of the Centre & Head of Fire & Safety, CUSAT while delivered Lecture on the topic 'Biodiversity': Post-Covid Period', mentioned that human survival depends on large number of organisms and every organism or species has its unique role and importance. The speaker explained that each species forms a special part of the complex natural web and has a definite role to play and thus, each species present in an ecosystem is important in its own right. He mentioned that since many of the species are under serious threats of extinction, it is a matter of prime concern that biodiversity should be conserved. Mr T P Raveendran, Chairman, Kochi Local Centre and Council Member, IEI, Mr V Vijayachandran Nair, Council Member, IEI and Mr M P Eldhose, Honorary Secretary, Kochi Local Centre were also present during the occasion.

Kota

The Institution of Engineers (India), Kota Local Centre celebrated World Environment Day on 5 June, 2020 through Webinar. Chief Guest, Mr J P Sharma, Former Additional Principal, Chief Conservator of Forest, Bhopal delivered Lecture on the theme 'Biodiversity'. Guest of Honour, Mr Rahul Bhatnaar, Former Chief Conservator of Forest, Udaipur also present during the function. Mr Anil K Mathur, Dean, Faculty Affairs & Professor, Environment Engineering Department, Rajasthan Technical University was the Convener of the day. Mr Sunil Bohra, Honorary Secretary, Kota Local Centre proposed the vote of thanks.

Kozhikode

World Environment Day was celebrated by The Institution of Engineers (India), Kozhikode Local Centre on 7 June, 2020 through online platform. Dr P Gireesan, Superintending Engineer, Kerala Water Authority, Kottayam delivered Lecture on the theme and stressed on the need to conserve natural resources as well as flora and fauna by all human beings for a balanced co-existence. Earlier, Mr C Jayaram, Honorary Secretary, Kozhikode Local Centre welcomed the guests and Mr K Bhaskaran, Chairman, Kozhikode Local Centre presided over the function.

Meerut

Meerut Local Centre of the Institution organized World Environment Day on 5 June 2020 through Webinar. Speaker of the day, Dr Sandeep Sirohi, Assistant Professor, Biotechnology Department, Meerut Institute of Engineering and Technology, defined Biodiversity as richness in variety and variability of species of all living organism in a given habitat. He explained three hierarchical levels of Biodiversity i.e., genetic, species & community and ecosystem diversity and mentioned that flora and fauna of diversity depends upon climate, altitude, soil and presence of other species. He also explained the bio-geographical classification of India and Biodiversity

Hotspot and mentioned that habitat loss, pollution and over exploitation

of selected species are the threats to diversity and rapid industrialization, urbanization, food demand and deforestation are the causes for habitat loss. Earlier, Mr Rajneesh Kumar, Chairman, Meerut Local Centre welcomed all



participants and highlighted the importance of the day.

Munirabad

The Institution of Engineers (India), Munirabad Local Centre observed World Environment Day on 5 June, 2020. Chief Guest, Dr Gurumahantesh, Panchakarma Specialist explained on the theme of the day. Earlier, Mr W Lalitha Prasad, Honorary Secretary, Munirabad Local Centre welcomed the gathering. Mr Prahalada E, Chairman, Munirabad Local Centre proposed the vote of thanks.

Ranipet

Ranipet Local Centre of The Institution celebrated World Environment Day on 5 June 2020. Speaker, Dr Dillip Kumar Barik, Associate Professor,



Department of Environment Engineering & Water Resources, School of Civil Engineering, VIT University, Vellore delivered Lecture on 'Biodiversity'. The Speaker felt that Biodiversity should be protected to sustain food chain, nutritional needs, to

obtain cleaner air, better cultivation of crops and explained the significance of Bioinformatics to conserve Biodiversity.

Roorkee

The Institution of Engineers (India), Roorkee Local Centre celebrated World Environment Day on 5 June, 2020 through organizing a Webinar. Keynote Speaker during the function, Mr Man Mohan Singh, Ex-Chief Engineer, Government of Punjab & Chandigarh & Past District Governor, Rotary International district 3080 stressed on reduction of plastic usage, plantation

of more trees and better solid waste management. Er Narendra Singh, President, IEI graced the occasion with his august presence. Earlier, Prof (Dr) Achal Kumar Mittal, Chairman, Roorkee Local Centre welcomed the guests. Dr Mohd Ashraf Iqbal, Honorary Secretary,



Iqbal, Honorary Secretary, Roorkee Local Centre proposed the vote of thanks.

South Gujarat

The Institution of Engineers (India), South Gujarat Local Centre, in association with Civil Engineering Department, Dr S & S S Gandhy Government Engineering College, Surat celebrated World Environment Day on 11 June, 2020 by organizing Webinar on the topic 'Environment and Social Impart of Covid-19: Lesson to be Learnt'. Dr Bhaven Tandel, Assistant Professor, Civil Engineering Department, SVNIT, Surat delivered Lecture on the topic. Mr Kirti Hiralal Shethna, Chairman, South Gujarat Local Centre and Council Member, IEI and Mr Dipak Gomanbhai Patel,

Honorary Secretary, South Gujarat Local Centre also shared their views and welcomed to the participants.

Tiruchirappalli

Tiruchirappalli Local Centre and Tamil Nadu State Centre of the Institution jointly organized World Environment Day on 9 June 2020 through video

conferencing. Speaker during the session, Dr Shanmugam, Senior Principal Scientist, Head Professor. AcSIR. Environmental Science Laboratory. CSIR-Central Leather Research Institute. Adyar, Chennai delivered Lecture on the



topic 'Biodiversity - A concern that is both Urgent and Existential', Dr G Swaminathan, Professor (HAG) and Head, Department of Civil Engineering, NIT Tiruchirappalli was present during the occasion and addressed the audience. Prof (Dr) N Kumaresan, Chairman, Tiruchirapalli Local Centre & Council Member, IEI welcomed the audience. Dr N Sivakumaran, Honorary Joint Secretary, Tiruchirappalli Local Centre proposed the vote of thanks.

Trichur

The Institution of Engineers (India), Trichur Local Centre observed World Environment Day on 5 June 2020 by organizing a Webinar. The Chief Guest, Dr V M Abdul Hakkim, Professor, Department of Agricultural Engineering, College of Agriculture, Kasaragode, Kerala delivered Lecture



on the theme. Earlier, Mr V G Sankaranarayanan, Chairman, Trichur Local Centre delivered welcome address. Mr Sasidharan Achari M N, Honorary Secretary, Trichur Local Centre proposed the vote of thanks.

Udaipur

The Institution of Engineers (India) Udaipur Local Centre organised World Environment Day on 5 June, 2020 through online platform. Mr Anurodh Prashant, Mr Ravindra Bhatnagar, Dr Dharm Singh, Mr A S Choondawat, Mr Piyush Javeria, Mr B L Jain, Dr Y C Bhatt, Mr Nirmal Kumar Vyas, Mr L T Lokhandwala, Mr Hitanshu Kaushal and Mr R P Gupta expressed their views on World Environment Day. Earlier, Mr Yawanti Kumar Bolia, Chairman, Udaipur Local Centre welcomed all participants and briefed on the theme 'Biodiversity'. Mr Chandra Prakash Jain, Honorary Secretary, Udaipur Local Centre proposed the vote of thanks.

Upper Assam

The Institution of Engineers (India), Upper Assam Local Centre organized World Environment Day on 5 June 2020 through organizing a Webinar. Speakers during the function, Mr Shyamanta Kumar Sarmah, Deputy Manager, Assam Petrochemicals Limited delivered Lecture on the topic

'Biodiversity and Threats to it. Mr Devanga Gaurav Borah, Assistant Manager (Production), Assam Petrochemicals Limited delivered lecture on the theme 'Biodiversity 2020 - the year so for the Environment'. Earlier, Mr



Amitava Dasgupta, Immediate Past Chairman, Upper Assam Local Centre welcomed all present in the meeting and delivered Lecture on the topic 'Act Now for Better Tomorrow'. Mr Diganta Goswami, Honorary Secretary, Upper Assam Local Centre proposed the vote of thanks.

Visakhapatnam

Visakhapatnam Local Centre of the Institution celebrated World Environment Day on 5 June, 2020 through online platform. Speaker, Mr Y V N Chandrakhar, Scientist E, Naval Science & Technological Laboratory (NSTL), DRDO, Visakhapatnam delivered Lecture on 'Biodiversity' and highlighted its

impact on nature and human life. Dr B Venkataramana, Chairman, Visakhapatnam Local Centre and Council Member, IEI, presided over the session and briefed about the theme. Prof (Dr) K Venkatasubbaiah, Vice President, IEI and Dr (Ms) G Padmavathi, Council Member, IEI, graced the occasion with their august presence. Earlier, Mr K Venkata Rama Mohana Rao, Honorary Secretary, Visakhapatnam Local Centre welcomed the gathering.



IEI Join Hands with Various Certification Bodies to Nurture Engineers

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

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

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

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

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

Corrigendum

In the Report published in July 2020 issue of IEI News regarding International Conference of Civil Engineers, organised by Odisha State Centre, the headline should be read as International Conference of Civil Engineers at Bhubaneswar

News-in-Brief

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

STATE CENTRE

Delhi

Celebrated World Engineering Day for Sustainable Development on 4 March, 2020. Dr Mangu Singh, Managing Director, Delhi Metro rail Corporation graced the occasion as Chief Guest and delivered the Keynote address. Mr Bharat Bhushan Makkar, ADG & Pr Chief Engineer (Maintenance & Flyover), PWD Delhi was the Guest of Honour. Mr Mehtab Singh, Chairman, The Institution of Engineering and Technology (IET), Delhi Local Network was also present during the function and addressed the audience.

Organised Technical Talk on the topic 'Smart Devices: Impact on Human Life' on 28 February, 2020. Mr Ashish Kumar Rustagi, Senior Technical Consultant, TCS delivered the Keynote Lecture. Dr Anup Girdhar, CEO, Security Groups, Editor in Chief, Cyber Crime Press and Cyber Crime Investigator apprised the audience about the theme.

Organized Technical Lecture jointly with Tripura State Centre, IEI on the theme 'Retrofitting of Structures' on 8 January, 2020. Mr R K Majumdar, Past Chairman, Tripura State Centre was the Chief Guest and delivered Lecture on the topic. Mr Chinmay Debnath, Chairman, Tripura State Centre and Council Member, IEI also delivered Lecture on the topic of the day.

Gujarat

Jointly with Indus University, IITE and Gujarat Institute of Civil Engineers and Architects organized Webinar on the topic 'Senior Citizen Housing during and after COVID-19' on 18 July, 2020 through online platform. Views and opinions shared by Mr Vishnu Khare, Chief City Town Planner, Municipal Corporation, Indore, Mr Nikhil Sahasabhojanee, Architect & Urban Town Planner, Nagpur, Dr Ing. Anupam Kumar Singh, Director — IITE, Indus University, Ahmedabad, Mr R K Jani, Director & Co-founder at Kotari Fresh & Indigrrez Innovation Pvt. Ltd., Jaipur and Dr Dharmendra Kumar, Senior Manager, Resale & Rental Ashiana Housing Ltd, New Delhi.

Telangana

Celebrated 119th Birthday of Padma Bhushan Dr K L Rao, Past President, IEI on 15 July, 2020. Mr A Ramesh, OSD(IS&ERP) & Former CGM(IS&ERP), TS GENCO graced the function as Chief Guest, paid rich tributes to him and also delivered a talk on 'IT & OT Integration for Business Analytics in Utilities'.

Organised Web Conference on 'Electricity (Amendment) Bill – 2020' on 18 May, 2020. A Panel Discussion was lead and moderated by Dr G Tulasi Ram Das, Professor of Electrical & Electronics Engineering, JNTUH and Former Vice-Chancellor, JNTUK, Kakinada.

Uttar Pradesh

Organized Webinar in association with School of Management Sciences, Lucknow (SMS) and Dev Sanskriti Vishwavidyalaya, Haridwar (DSVV) on 21 June, 2020 on the topic "Ancient Science of Stress Management Post COVID-19" on the occasion of 6th International Yoga Day. The speaker during the occasion, Mr P D Saraswat, Former Deputy General Manager, SIDBI, gave the presentation with scientific validation supported by research undertaken by AlIMS and IIT, NASA, Bells Laboratory USA and Scientist Dr Emoto of Japan.

LOCAL CENTRES

Coimbatore

Organized Lecture Meeting on the topic, 'Biomedical Instrumentation Aspects for Vaccine Production' through online platform in association with Department of Biomedical Engineering, Hindusthan College of Engineering and Technology, Coimbatore on 6 June, 2020. Chief Guest, Dr S Jagannathan, Assistant Research Officer, Pasteur Institute of India, The Nilgiris, Tamilnadu deliberated Lecture on the topic.

Observed World Telecommunication and Information Society Day 2020 on 8 June, 2020 through online platform. Chief Guest, Mr T R Madhavan, Divisional Engineer, Mobile Networks, Bharat Sanchar Nigam Limited, Coimbatore delivered Lecture on the topic 'Role of Telecom in Developing ICTs for SDGs'.

Organized Lecture Meeting on the topic 'Automotive Electronics: An Overview and Opportunities' on 20 June, 2020 through online platform, in association with Department of Electronics and Communication Engineering, Kumaraguru College of Technology, Coimbatore. Chief Guest, Ms. Chaitra Nagaraju, Module Lead System Engineering – Functional Safety, Continental Automotive Components India Private Limited, Bangalore delivered Lecture on the topic.

Organized Lecture Meeting on 'Mediclaims - An Alternative to kill Fear During Pandemic Situations' held on 5 July, 2020 through online platform, in association with Department of Electronics and Communication Engineering, Kumaraguru College of Technology, Coimbatore. Mr Satish Kumar, Senior Sales Manager, Star Health Insurance, Coimbatore was the Chief Guest and deliberated Lecture on the topic.

Organized Lecture Meeting on 'Management Standards' held on 12 July, 2020 through online platform, in association with Department of Textile Technology, PSG College of Technology, Coimbatore. Chief Guest, Mr P Subbiah, Quality Assurance Officer (EP&QA), Textiles Committee, Coimbatore gave a Lecture on the subject.

Organised Lecture Meeting on 'Importance of Energy Conservation and Energy Management', held on 18 July, 2020 through online platform, in association with Department of Foundry Technology, PSG Polytechnic College, Coimbatore.

Organised Lecture Meeting on 'Design of Lateral Forces – Wind' held on 25 July, 2020 through online platform, in association with Department of Civil Engineering, KPR Institute of Engineering and Technology, Coimbatore.

Organised Lecture Meeting on 'Energy Conservation and Energy Efficiency Measure in Foundries with Case Studies' held on 25 July, 2020 through online platform., in association with Department of Foundry Technology, PSG Polytechnic College, Coimbatore.

Organised Lecture Meeting on 'Grid Connected and Standalone PV Solar Plant Design" held on 26 July, 2020 through online platform, in association with Department of Electrical and Electronics Engineering, PSG College of Technology, Coimbatore.

Organised Lecture Meeting on 'Latest Developments in Rieter Spinning Systems, held on 31 July, 2020 through online platform, in association with the Department Textile Technology, PSG Polytechnic College, Coimbatore.

Organised Lecture Meeting on 'Automotive Cyber Security' held on 31 July, 2020 through online platform, in association with the Department of Electrical and Electronics Engineering, PSG College of Technology, Coimbatore.

In association with Tamilnadu State Centre and Madurai Local Centre, IEI, celebrated the 40th Anniversary of Madurai Local Centre on 20 July, 2020 through online platform. Mr P R Natarajan, Chairman, Coimbatore Local

Contd. on page 15

53rd ENGINEERS' DAY

Additionally, India has demonstrated how it rises up to challenges and uncovers opportunities therein, as manifested in the re-purposing of various automobile sector industries to collaborate in the making of lifesaving ventilators. The clarion call given by the Hon'ble PM to use these trying times to become self-reliant has been very well received to enable the resurgence of the

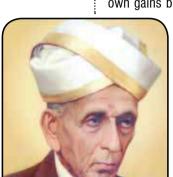
Theme:

Engineers for a Self-Reliant India

September 15 is celebrated every year in the country since the year 1967 as "Engineers' Day" to commemorate the birthday of the legendary engineer Sir Mokshagundam Visvesvaraya. Sir Visvesvaraya, an eminent Indian engineer and statesman was born in a remote village of Karnataka, the State that is incidentally now the Hi-tech State of the country. Due to his outstanding contribution to the society. Government of India conferred "Bharat Ratna" on this legend in the year 1955. He was also called the precursor of economic planning in India. His learned discourse on Economic Planning in India, Planned Economy for India and Reconstructing India, was the first available document on the planning effort of the country and it is still held as the parent source matter for economic planners. A theme of national importance

is chosen every year by the Council of the Institution and deliberated at its various State/Local Centres to educate the engineering fraternity in general and the society in particular. This year the 53rd Engineers' Day will be celebrated all over the country on the theme "Engineers for a Self-Reliant India" to mark the occasion.

Government of India is taking several steps to ensure that we are well prepared to face the challenges and threats posed by COVID-19. India has faced the COVID-19 situation with fortitude and a spirit of self-reliance that is evident in the fact that from zero production of Personal Protection Equipment (PPE) before March 2020, India today has created a capacity of producing 2 lakh PPE kits daily, which is also growing steadily.



Bharat Ratna Sir M Visvesvarava

Indian economy.

The Indian engineering community subscribes to the above philosophy and has done itself proud. "Leadership" in India would come by only when all those who have authority and money, use them not only for their own gains but also for the benefit of those who lack them. Participative

"governance", rather than merely government, can drive the change. Public participation, continuous and tireless hard work, are the instruments that only could provide India the leadership baton where the world will watch the country as an embodiment of vibrancy, equity, and intellect in a market-driven economy in an all-inclusive environment. Redistributions from richer and more powerful groups to poorer groups that may face limited opportunities should be pursued. The ultimate goal should be reduction of poverty through equitable pursuit of prosperity and the engineering community will harness and manage the natural resources with equity lens and demand level-playing field.

Efforts at the required reforms must be accompanied by safeguards as appropriate for a country of the size and

income disparity such as India. Also, policy initiatives that contribute to the growth of agricultural and manufacturing sectors, and therefore create employment, must be pursued rigorously.

There is a clear path to lead India to global leadership in engineering and technology and become self-reliant in these spheres. The country has the resources, the institutions and the mindset too. Engineers do need to work towards a fusion of our positive achievements. This is the essential condition for India's path towards self-reliance and emergent role in global engineering and technology. With the seamless engineering and technology capabilities, tempered by the social and political systems, Indian engineers can be the harbinger to the development of economy of the country in the post-pandemic regime.

News-in-Brief

Contd. from page 14

Centre and Council Member, IEI delivered Lecture on the topic 'Energy Storage Systems'. Mr R Ramdoss, Chairman, Tamilnadu State Centre and Council Member, IEI and Mr P Rajamani, Council Member, IEI were present during the function and addressed the audience. Earlier Mr S Rajagopal, Chairman, Madurai Local Centre and Council Member, IEI delivered the welcome address. Mr R Narayanasamy, Honorary Secretary, Madurai Local Centre, proposed the vote of thanks.

Tiruchirappalli

Jointly with Tamilnadu State Centre, IEI organised a Technical Lecture on 16 June 2020 through Webinar. Dr Ignacio Camarillo, Associate Professor, Department of Biological Science, Purdue University delivered the talk on the topic 'Defining the Mechanisms of the Plant Extract Lippiaorignoides intriggering Triple-Negative Breast Cancer Cell Death'.

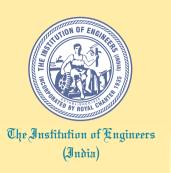
Jointly with Tamilnadu State Centre, IEI, Indian Welding Society, CSI, Tiruchirappalli Chapter, Indian Institution of Metal & Indian Institute of

Welding arranged a Technical Lecture on video conference mode on 14 July, 2020. On the occasion, Dr P S Kumar, Managing Director, ETA Smart Pvt. Ltd., delivered the talk on 'Introduction to Industry 4.0'.

Jointly with Tamilnadu State Centre, IEI arranged a Technical Lecture in video conference mode on 7 July, 2020. Prof(Dr) Ramana Kumar Vinjamuri, Harvey N Davis Distinguished Assistant Professor, Department of Biomedical Engineering, Stevens Institute of Technology, USA delivered the talk on 'Synergy-based Human-machine interfaces'.

Jointly with Tamilnadu State Centre, IEI, CSI, Tiruchirappalli and IEEE Student Branch, NIT, Tiruchirappalli arranged a Technical Lecture in video conference mode on 2 June, 2020 to celebrate World Telecommunication and Information Society Day. On the occasion, Dr Narasimha Sarma N V S, Director, Indian Institute of Information Technology, Tiruchirappalli (IIITT), delivered Lecture on the theme 'Connnect 2030: ICTs for the Sustainable Development Goals (SDGs)' and shared his research experiences on the subject.

Observed World Water Day 2020 on 8 July 2020. Mr Manuraj, Former Director, IMTI & Retired Chief Engineer, PWD, Tamilnadu delivered Lecture on the theme 'Water and Climate Change'.







ALL INDIA STUDENT DESIGN COMPETITION 2020

Theme: Post COVID-19 - Challenges and Opportunities

Three prizes would be awarded in each of the fifteen disciplines









Competition Disciplines

- Aerospace
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- Chemical
- Civil
- Computer
- Electrical

- Environmental
- Marine
- Mechanical
- Metallurgical and Materials
- Mining
- Production
- Textile

Electronics and Telecommunication

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Students studying as Senior Technician / Technician Member of IEI, who have passed at least Section-A exa mination of The Institution of Engineers (India)

Online submission: www.ndrf.res.in/aisdc.html

Direct your queries to

DIRECTOR

NATIONAL DESIGN AND RESEARCH FORUM

The Institution of Engineers (India)

No.3, Dr. B.R. Ambedkar Veedhi, BANGALORE-560001

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WATER MANAGEMENT FORUM

A Peripheral body of the Institution of Engineers (India)



The Institution of Engineers (India)



Gujarat State Centre, Bhaikaka Bahvan, Law Garden Road, Ahmedabad-380 006. Tel.: (079) 26400811, Email: watermanagementforum@gmail.com

Website: www.wmf-iei.org

NATIONAL POSTER COMPETITION ON "WATER CONSERVATION" - 2020 FOR SCHOOL STUDENTS

Water Management Forum has launched National Poster Competition with a view to make children aware about need of conserving the precious resource of water and also involve their parents in the above noble cause. The competition is open for all students of India studying in standard V to Standard XII from 15TH JULY 2020 to 30th September 2020. The winners will be awarded cash prizes.

Entry rules

The participants shall bear the expenses towards the material required for preparing the posters and no cost in this regard would be borne by Water Management Forum or The Institution of Engineers (India).

The theme for the poster competition is "WATER CONSERVATION"

All posters must contain the following details at the back of the poster.

(In English and capital letters only)-

Name of student, class, Section, School, full school address, father/mother's name, telephone number of school and parents along with STD code, signature of School Principal. Posters not signed by the school Principal or sent directly by student/parent to the Water Management Forum will not be accepted.

There will be two following Categories in the competition

Junior – From Vth to VIIIth standard

Senior- From IXth to XIIth Standard

The Poster will have minimum A 3 Size of 30 cm X 42 cm, and maximum A 1 Size of 60cm X 84 cm. There will be no restriction on type of colors to be used.

All entries to be sent **by post** to the registered office of the Forum at:

The Director, Water Management Forum, The Institution of Engineers (I),

Bhaikaka Bhavan, Opp Law Garden, Ellisbridge, Ahmedabad 380006.

Email - watermanagementforum@gmail.com

Awards

Three best posters in both categories shall be selected by the Jury of three independent eminent persons appointed by the Forum. Winners shall be conferred upon an award, a certificate and cash prize. 1st Prize shall be Rs. 10,000/-; Second prize Rs. 5000/- and the third prize shall be Rs. 2000/- Awards/Prize shall be declared during October 2020 by the Jury.

Published by: WATER MANAGEMENT FORUM

Peripheral body of The Institution of Engineers (India), Contact: www.wmf-iei.org

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 September 2020.

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

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



Journal of The Institution of Engineers (India): Series B



Special Issue

Data Science for Global Crisis: COVID-19 and Beyond

- Al and Data Science for management of post-COVID scenario
- Social network analysis for COVID-19 management
- Diffusion models for characterizing COVID-19 pathogen
- Predictive models of pandemic evolution exploiting AI techniques
- Real time forecast of a pandemic like COVID-19
- Modeling, Estimation and Prediction of Outbreak spreading behavior, contact tracing
- Spatiotemporal disease dynamics
- Multi sensing system for automatic symptoms analysis and prediction of COVID-19
- Models for financial market reactions to COVID-19
- Risk Profiling: forecasting, assessment, and management
- Pandemic prevention and control
- Modeling the direction and volumes of trade flows in global crisis
- Modeling and Forecasting the economic crisis as a result of
- Innovations on online learning for formal education and universities
- Innovation in Information technology in COVID-19 patient
- Information technologies in hospital management during an epidemic or pandemic
- Applications of the Internet of Things in healthcare to address COVID-19 challenges Effective Mass Sanitization
- Access to COVID-19 education and resources
- Access to Remote education
- Impact of Social Distancing, Quarantines and Lockdown
- Effective existing Space conversion and utility
- Supply chain management of necessary commodities
- Impact of lockdown on the bottom of the pyramid
- Post COVID-19 redevelopment/rehabilitati
- Impact of the pandemic on people's psychology and on



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Pune, India

Prof P P Das. Department of Computer Science and Engineering, Indian Institute of Technology Kharagpur, India

Journal of The Institution of Engineers (India): Series C



Special Issue Micro and Nano Self Assembly

- Bio-inspired self-assembly
- Active self-assembly
- Heterogeneous integration
- Directed self-assembly
- Autonomous movement
- Controlled self-assembly
- Energy-dissipating Systems
- Microsystems, Microfabrication
- Nanofabrication
- Atomic force microscopy

Polymers, Manufacturing

- Biosensors
- Nanostructures
- High Aspect Ratio, Etch Rate
- Double-shelled octahedron
- Scanning Electron Microscope
- Photocatalysis
- Sacrificial Layer and other relevant areas
- Oxidation of saturated CH bonds
- Quantum Wire



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Prof Gautam Biswas, FNA, Department of Mechanical Engineering, Indian Institute of Technology Kanpur, India; Former Director, Indian Institute of Technology Guwahati, India; Former Director, CSIR-Central Mechanical Engineering Research Institute, Durgapur, India



Submission of papers through: https://www.editorialmanager.com/ieic/default.aspx



Journal of The Institution of Engineers (India): Series C



Special Issue

Creating a Circular Economy: Myth or Reality

Submission of papers through: https://www.editorialmanager.com/ieib/default.aspx

- What are the major issues and challenges of each phase of circular economy (e.g. take, make, distribute, use and recover) within industrial supply chain?
- . Is there any best practice within each phase of circular economy? What innovation could be suggested in each phase to
- enhance sustainability performance? What role individual organisation, industry consortium, and policymakers should play to adopt circular economy in
- businesses? . Is there any difference and similarity of circular economy
- adoption in developed and emerging economies? Could we measure circular economy performance and suggest means for improvement?
- How could technology play major role in adopting circular economy?
- What are the various measures related to resource and energy efficiency that have been undertaken in order to achieve circular economy?
- How reduce, reuse and recycle principles have been practiced across the society in order to adopt circular economy?
- What resources, strategies, and competences are required to implement circular economy?
- How circular economy is related to sustainable development goals?
- How social wellbeing and gender equality are related to circular economy? Is there any synergy between physical and mental health
- wellbeing, and circular economy? Could circular economy help achieve greater sustainability
- across industries? How effective waste management helps achieve greater sustainability?
- How is adoption of circular economy facilitated through advanced information and communication technologies (e.g. Industry 4.0, Internet of Things, Block chain, big data and 3D printing)?



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Submission of papers through: com/ieic/default.aspx



Journal of The Institution of Engineers (India): Series C



Special Issue Wind Tunnel Techniques from Hyposonic to **Hypersonic Flows**

- · Wind tunnel design and construction
- Utilization of wind tunnels for aeronautical and nonaeronautical applications
- Model fabrication
- · Model supports
- Wind tunnel measurements
- Use of CFD for improved wind tunnel design
- Use of computers in wind tunnel operation and
- Validation of CFD results with wind tunnel measurements
- Balance design and fabrication
- Integration of EFD / CFD and digital / analogue wind
- Use of water tunnels for testing aeronautical and non-aeronautical models
- Data capture and analysis and case studies



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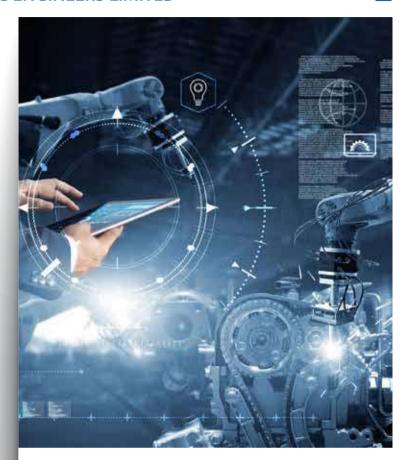
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IEI AWARDS

CALL FOR PAPERS

The Steel Authority of India Ltd (SAIL) had instituted two Awards, namely, **SAIL AWARD** and **DR M VISVESVARAYA AWARD** to be given away every year during the Indian Engineering Congress to author/s of the articles adjudged best on selected topics. The prize-winning papers will be published in the Technical Volume of 35th Indian Engineering Congress.

The topics for the year 2020 are given hereunder.

SAIL AWARD

DR M VISVESVARAYA AWARD

Digital Transformation in the Steel Industry

Hydrogen based Steel Making – The Future?

Intending contributors are requested to send the soft copy of the paper by email to award@ieindia.org (with subject heading Paper for SAIL/Dr M Visvesvaraya Award) and submit four nos. printed copies of their articles to :

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

Last date of submission: September 30, 2020

For downloading the template of paper and declaration form, please visit the following link: https://www.ieindia.org/webui/IEI-Activities.aspx#Call_Papers



The Institution of Engineers (India)

Notification for

R&D Grant-in-Aid (2020-21)

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

Like every year, the Institution invites applications for the session 2020-2021 for funding R&D projects and research initiatives aimed at improving the life-style of common people from engineering students pursuing full time Diploma/UG/PG/PhD engineering program from AICTE/UGC/NAAC approved Institutions/Colleges/Universities. The application form and guidelines are available in our website https://www.ieindia.org. The projects should be carried out under the guidance of faculty members who are Corporate Members of IEI. Membership criteria for student(s), guide(s) and Institution(s) are as follows:

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

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

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

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

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



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