

Qualitative and Quantitative Improvements in Farm Products through Innovative Technology

2

Mechanical Engineering and Emerging Challenges for Manufacturing

3

Agricultural Engineering for the Sustainable Agriculture and Rural Development in India

4

IEI Diary

13

99 YEARS OF RELENTLESS JOURNEY TOWARDS ENGINEERING ADVANCEMENT FOR NATION-BUILDING

Volume 68

Number 7

Council Elects New President of IEI

Mr T M Gunaraja, FIE, a man of clear vision, exceptional foresight and diligence has been elected as the President of The Institution of Engineers (India) for the Session 2018-2019 during the 702nd Council Meeting of the Institution held on September 22, 2018 at Goa. He is a renowned personality in institution building and also a multi-disciplinary educationist for over 30 years.



A Mechanical Engineer from The Institution of Engineers (India), he has a Masters in Production Engineering from Anna University and a Master's Degree in Business Administration (HR). He is the founder and owner of three renowned educational ventures – Madras Institute of Engineering Technology, TMG College of Arts and Science and TMG College of Hotel Management, located in Tamilnadu.

Mr Gunaraja has been in the Council of The Institution of Engineers (India) for almost two decades. He has served the Institution

Contd. on page 2

From the President's Desk.....



Industrialisation of our country has great impact on the economy and enhancement of living standards of the people. With growth of demand in every sector, there is a need for consistent growth in production of goods coupled with new technologies required to meet the demand. From the economic point of view, such growth is a very positive sign for a prosperous nation, but at the same time growth has to be taken into consideration the environmental impact of development. Appropriate and judicious use of technology for preservation of natural resources, recycling of waste, reduction in consumption are the key factors to overcome the possible imbalance and to attain sustainable livelihood. Synergy between traditional, local knowledge and the advanced research on science and technology can also play a very crucial role for sustainable development. While prioritizing rural development, there should be well planned comprehensive and holistic

Contd. on page 3

President, IEI Conferred with Highest Award of CSVTS

A two-member delegation from the Czech Association of Scientific and Technical Societies (CSVTS) visited The Institution of Engineers (India) on September 27, 2018. The delegation was led by Doc. Ing. Daniel Hanus, the President of the Czech Association of Scientific and Technical Societies. In a ceremonial function held at Kolkata, Doc. Ing. Daniel Hanus conferred the highest CSVTS Award 'Christian Josef Willenberg Medal' on Mr Sisir Kumar Banerjee, President, IEI, as a token of long term association and co-operation between CSVTS and IEI. The event was graced by the presence of Mr T M Gunaraja, President-Elect, IEI; Mr Navinchandra B Vasoya, Immediate Past President, IEI; Prof (Dr) Samiran Choudhury, Past President, IEI; Mr Utsav Parekh, Head of the Mission, Honorary Consulate of the Czech Republic in Kolkata and Council Members of IEI. Maj Gen S Bhattacharya, VSM (Retd), Secretary and Director General, IEI along with Directors and officers of IEI Hqs attended the function. On this occasion, renewal Agreement of Co-operation between CSVTS and IEI was also signed.



Qualitative and Quantitative Improvements in Farm Products through Innovative Technology

Delhi State Centre of the Institution in association with Department of Environmental Engineering, Delhi Technological University, New Delhi organized the 34th National Convention of Environmental Engineers and National Seminar on the theme "Environmental Pollution and Climate Change" under the aegis of Environmental Engineering Division Board (ENDB), IEI, during August 10-11, 2018 at New Delhi. The Chief Guest of the Convention Dr Satya Pal Singh, Hon'ble Union Minister of State for



Water Resources, River Development, Ganga Rejuvenation and Human Resources Development (Higher Education), Govt. of India, could not attend the Convention but delivered his speech through video conferencing. He highlighted various current issues on challenges of climate change. He also focused on various new initiatives being taken by the Govt. of India, especially, the training programme on awareness on environmental pollution. The Convention was formally inaugurated by the Guests-of-Honour, Mr U P Singh, IAS, Hon'ble Secretary to the Union Minister of Water Resources, River Development and Ganga Rejuvenation, Govt. of India and Mr Sisir Kumar Banerjee, President, IEI. Apart from this, many eminent personalities, professors, scientists, delegates from different institutes, universities, organizations and companies attended the Convention. Mr U P Singh, in his address, highlighted various issues like, decrease in rainfall, increase in total rainfall leading to drought and flood, climate change, water harvesting, water supply, dams etc. Mr Singh also explained the causes of pollution in

river areas and focused on creating adequate awareness amongst common people. Mr Sisir Kumar Banerjee, President, IEI, highlighted various new initiatives being taken by IEI that are linked with the students and other practising engineers. Later on, President spoke about celebration of World Environment Day 2018 in association with Ministry of Environment, Forest and Climate Change, Govt. of India. In this respect, he mentioned about the active participation of IEI in celebrating the day at Vigyan Bhawan, New Delhi. Mr Sanjay Sen, Chairman, Environmental Engineering Division Board, IEI highlighted various technical activities conducted under this Division throughout the country. He also stated that young engineers should come forward to focus on new challenges on environmental pollution and climate change issues. Mr O P Goel, Past President, IEI was also present on this occasion. The prestigious "N V Modak Memorial Lecture" was delivered by Dr Ajay Mathur, Director General, The Energy and Resources Institute (TERI), New Delhi. He elaborated on growth of low carbon energy in India, climate change and transition to more liveable future. Mr Pradeep Chaturvedi, Council Member, IEI, spoke about various issues, such as, conversion of waste into wealth, climate change issues and its impact, managing plastic pollution, sustainable industrialization, environmental sustainability etc. The State-of-the-Art lecture was delivered by Mr P C Tyagi, former Chairman, Central Pollution Control Board. He elaborated on water crisis, public health and its engineering practises. On this momentous occasion, Eminent Environmental Engineers, namely, Dr Ajay Mathur, Director General, The Energy and Resources Institute (TERI), New Delhi; Prof S K Singh, Head, Department of Environmental Engineering, Delhi Technological University, New Delhi; Prof Jagjit Singh Ghuman, former Chief Town Planner, Govt. of Punjab & Former Housing Commissioner, Govt. of Punjab and Dr G Rameshwar Rao, Former Director (Operations), Hyderabad Metropolitan Water Supply and Sewerage Board, were felicitated for their immense contributions in the profession of environmental engineering. During the Convention, Keynote Address was delivered by Dr S D Attri, Deputy Director General (Meteorology), India Meteorological Department, New Delhi. Earlier, Mr Devendra Gill, Chairman, Delhi State Centre of the Institution, welcomed the august gathering. The vote of thanks was presented by Mr Praveen Kumar Singh, Honorary Secretary of the Centre. A large number of technical papers embracing the theme of the Convention were presented and discussed during technical sessions.

Council Elects New President of IEI

Contd. from page 1

in various capacities including: Member – Board of Governors of National Design & Research Forum and Rural Development Forum. He has also been associated with many important Committees, such as, Committee for Advancement of Technology & Engineering, Strategic Plan Committee and Finance Committee. Mr Gunaraja served as Chairman of Tamilnadu State Centre of the Institution for the session 2012-2014. By virtue of his dedicated services to the Institution, Mr Gunaraja became the Vice President of The Institution of Engineers (India) for the session 2005-2006.

Mr Gunaraja is known for an inclusive educational outlook has played a pivotal role in opening IEI Local Centres and Student Chapters in Engineering

Colleges of Tamilnadu. He has been keenly involved in professional issues and was the Founder Chairman of Institution of Mechanical Engineers and Member of – Institution of Automobile Engineering (India), Institution of Civil Engineering (India) and The Council of Engineering & Technology (India).

Mr Gunaraja has been Chairman and Co-chairman of the 28th and 32nd Indian Engineering Congress held at Chennai in December 2013 and 2017 which was graced by the presence of Honourable Presidents Shri Pranab Mukherjee and Shri Ramnath Kovind, respectively.

His unwavering passion for professional excellence earned him many laurels, like Technology Excellence Award presented by the former Prime Minister of India, H D Deve Gowda at Indian Technology Awards - 2014 and Bharat Vidya Shiromani Award by the International Institute of Education & Management in February 2015.

Mr T M Gunaraja will assume office as the President of The Institution of Engineers (India) at the Ninety-ninth Annual General Meeting of the Institution to be held at Udaipur on December 23, 2018.

Mechanical Engineering and Emerging Challenges for Manufacturing

Delhi State Centre of the Institution organised the Thirty-fourth National Convention of Mechanical Engineers and National Seminar on the theme 'Mechanical Engineering and Emerging Challenges for Manufacturing' under the aegis of Mechanical Engineering Division Board, IEI, during September 07-08, 2018 at Delhi. The Chief Guest, Mr Sisir Kumar Banerjee, President, IEI, during his inaugural address, mentioned that the demand for high calibre engineering profession would be a major requirement to meet the explosion of infrastructure development underway in India and in the developing world at large. He further mentioned that manufacturing in India



is highly reliant on well functioning infrastructure and India's manufacturing exporters play a key role in promoting the sector's prowess to consumers across the world. President, focussed on the major challenges of manufacturing sector including lack of skilled manpower, proper attention in research and innovation, lack of infrastructural development, cyber security, customer satisfaction etc. Dr Arun Kumar Shrivastava, Chairman, Mechanical Engineering Division Board, IEI presided over the Inaugural Session. In his address, Dr Shrivastava highlighted the critical challenges in the field of manufacturing in view of rapid technological development, globalization, capacity building, exponential growth in manufacturing, environmental and safety aspects, etc. Mr Pradeep Chaturvedi, Council Member, IEI and Chairman, Technical Committee in his address stressed on training and development of skilled manpower, generation of new job and subsequent obsolescence due to growing automation and digitization. Earlier, Mr Devendra Gill, Chairman, Delhi State Centre welcomed the august gathering. Mr Praveen Singh, Honorary Secretary, Delhi State Centre, proposed the vote of thanks. A Proceedings containing technical papers was also released on this occasion. Two important memorial lectures were delivered by the experts in the field. Dr S C Bhattacharyya Memorial Lecture was delivered by Mr Keshav Chandra, Former Member (Mechanical), Railway Board & Ex-officio Secretary to the Government of India on the

topic 'Challenges in Manufacturing'. Mr Chandra, during his presentation, explained different challenges being faced by the mechanical engineers and mentioned the principal reasons behind these challenges and how to overcome it. Prof (Dr) P B Sharma, Vice Chancellor, Amity University, Gurugram, delivered Dr S P Luthra Memorial Lecture on

the topic 'New Vistas of Mechanical Engineering for Industry 4.0'. In his address, Prof Sharma highlighted mechanical engineering as the backbone of modern scientific technology driven growth and development and always remain on the forefront of engineering and technology revolution. He spoke about fourth industrial revolution which includes smart materials, nano-structured composites, biodegradable plastics and polymers, bio-inspired manufacturing, Global SCM powered by IoT, etc ushering the new industrial revolution. Two State-of-the-Art Lectures were presented during

the occasion by Mr R S Sharma, Managing Director, Lalitpur Power Generation Company Limited & former CMD, NTPC on the topic 'Process and Technological Interventions for Controlling Cost of Generation' and Lt General K K Agarwal, SM, VSM, Director General of EME on the topic 'Make in India and State of Art Challenges for the Indian Army' respectively. On this occasion, four Eminent Engineers, namely, Mr U P Singh, Secretary, Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India (in absentia); Mr R S Sharma, Managing Director, Lalitpur Power Generation Company Ltd & Former CMD, NTPC; Mr Keshav Chandra, Former Member (Mechanical), Railway Board & Ex-Officio Secretary to the Govt. of India and Prof (Dr) P B Sharma, Vice Chancellor, Amity University, Gurugram were felicitated for their valuable contributions in the field of Mechanical Engineering by the Chief Guest during the Award Function. Mr Ashwani Lohani, Chairman, Railway Board, Government of India, in his address, emphasized on nation building by the engineers in different core sectors that results in building integrity and put the nation forward. The 'IEI Young Engineers Award' under Mechanical Engineering Division for the year 2018-19 was presented to Dr Aezhisai Vallavi M S, Assistant Professor, Department of Mechanical Engineering, Government College of Technology, Coimbatore Tamilnadu; Dr S Siddharth, Dean (Academics), Department of Mechanical Engineering, Mother Teresa College of Engineering and Technology, Tamilnadu and Dr R Keshavamurthy, Professor, Department of Mechanical Engineering, Dayananda Sagar College of Engineering, Bangalore. A Panel Discussion on 'Future of Mechanical Engineering' was also organised which was chaired by Mr Sudhir Garg, Joint Secretary, Ministry of Micro, Small and Medium enterprise, Government of India. A large number of papers embracing the theme of the National Seminar were presented and discussed during technical sessions.

From the President's Desk.....

Contd. from page 1

development programmes and efficient delivery systems, so that, the benefits can percolate to the target groups. We the engineers should play crucial role needed for bridging the development – sustainable gap and to establish the concept of "Land to Lab and Lab to Land" in the truest sense. The Institution of Engineers (India) celebrated two important events, namely, 'Royal Charter Day' on September 9, 2018 and 51st Engineers' Day on September 15, 2018 through its State and Local Centres throughout the country in an enthusiastic manner. It is thus incumbent on scientists and us engineers to realize the role of science and technology in the development of the nation. IEI was incorporated by Royal Charter on September 9, 1935 and remains the only such professional body in India to be accorded this honour. The Royal Charter was accorded to IEI "to promote the general advancement of engineering and engineering science and their application in India and to facilitate the exchange of information and ideas on those subjects amongst the Members of and persons attached to the Institution....". The theme of the 51st Engineers' Day was "Digital Transformation: A New Industrial Revolution". This year, Central Public Works

Department (CPWD) celebrated Engineers' Day in association with IEI on September 15, 2018 at Nirman Bhawan, New Delhi where I had the privilege to be present. Digital transformation is the integration of digital technology into all areas of a business, fundamentally changing how we operate and deliver value to customers. This process helps an organization to keep pace with emerging customer demands now and if sustained, in the future. It also enables an organization to improve competitiveness in an economic landscape that is constantly changing with advancement of technology. We were honoured to receive Doc. Ing. Daniel Hanus, President, Czech Association of Scientific and Technical Societies (CSVTS) and Ing. Zora Vidovencova, Head of President's Office, CSVTS at IEI Hqrs in Kolkata. I am happy to inform you that the Council at its 702nd Meeting held at Goa on September 22, 2018, elected Mr T M Gunaraja, a man with exceptional foresight and leadership acumen as the New President of The Institution of Engineers (India) for the session 2018-2019. I am sure Mr Gunaraja with his dynamic and able leadership will take the Institution to greater heights. He will assume office as the President at the Ninety-ninth Annual General Meeting of the Institution to be held on December 23, 2018 at Udaipur.

Agricultural Engineering for the Sustainable Agriculture and Rural Development in India

Kota Local Centre of the Institution organized the 32nd National Convention and National Seminar on the theme “Agricultural Engineering for the Sustainable Agriculture and Rural Development in India” under the aegis of Agricultural Engineering Division Board, IEI, during August 18-19, 2018. The event was organized in association with Agriculture University, Kota; Rajasthan Technical University, Kota and College of Technology & Engineering, Udaipur. The Chief Guest, Mr Atul Kumar Garg, former Chairman, Indira Gandhi Canal Project & former Principal Secretary, Agriculture & Forest Department, Govt. of Rajasthan, in his address, mentioned that Chambal Project is one of the largest integrated irrigation

growth in agriculture and this growth was mainly attributed to adoption of the agricultural technology during green revolution supported by positive governmental policies, liberal public funding for agricultural research and development and untiring work of farmers and manufacturers of agricultural machinery. Mr M B Shukla, Superintendent Engineer, Rajasthan River Basin and Water Resources Planning Authority, Jaipur, Rajasthan, in his Keynote Address mentioned that agriculture is the most important sector of Indian economy because it accounts for 18% of India's Gross Domestic Product (GDP) and provides employment to 50% of the country's workforce. According to him, agriculture is sustainable when it is ecologically sound,



economically viable and socially acceptable and based on a holistic scientific approach. A Souvenir was brought out on this occasion which released the Chief Guest and other distinguished guests. On this occasion, Eminent Engineers, namely, Mr Kailash Bhargava, Former Additional Director, Watershed Development & Soil Conservation, Govt. of Rajasthan; Dr H G Kamble, Former Head, Farm Operation Service Unit, ICAR – IARI, New Delhi; Mr Oommen

and power schemes constructed in India since independence. Mr Garg appreciated the farm development works and sub-surface drainage work executed by the agriculture engineers in the Chambal Command Area. He further mentioned that Command Area Development (CAD) programme was initiated with the objective to bridge the gap between irrigation potential created and that utilized through micro level infrastructure development and efficient farm water management to enhance agricultural production and productivity and also to improve socio-economic conditions of the farmers. Dr Nutan Kumar Dash, Chairman, Agricultural Engineering Division Board, IEI presided over the inaugural session. In his address, Dr Dash mentioned that Agricultural Engineers play a vital role in Indian economy. ‘Our ultimate goal is to contribute our genuine/Innovating inputs in the sustainable food production to meet the food requirement of our country along with to raise the income of farmers under the mission of Hon'ble Prime Minister for doubling income of farmers’, opined Dr Dash. Dignitaries, namely, Prof G L Keshwa, Hon'ble Vice Chancellor Agricultural University, Kota; Dr Indra Mani, President, Indian Society of Agricultural Engineers (ISAE) and Head (Agricultural Engineering), ICAR – Indian Agricultural Research Institute (IARI), New Delhi and Dr S K Calla, Council Member IEI, graced the occasion as the Guests-of-Honour and addressed the gathering. Prof G L Keshwa mentioned that India is the second largest producer of fruit and vegetables in the world and we need technology up-gradation to meet the international quality standards as well as the domestic needs. Dr Indra Mani mentioned that agriculture as a significant contributor to employment and livelihood creation continues to be the mainstay of India's rural economy. He felt that with increasing population and to achieve food security for the nation, it is imperative to focus on increase in production, productivity and profitability in agriculture by improving the intensity of farm mechanization in the country. Dr S K Calla stated that India has witnessed unprecedented

P Varghese, Consultant, Land Development, Soil & Water Conservation, National Bank for Agriculture and Rural Development (NABARD), Kerala; and Mr Sohan Devpura, Former Additional Director, Watershed Development & Soil Conservation, Govt. of Rajasthan, for their immense contributions in the field of agricultural engineering. The ‘IEI Young Engineers Award’ in the field of agricultural engineering for the session 2018-2019 was presented to Ms Prakruthi N Raj Gangadkar, Senior Research Fellow, University of Agricultural Sciences, Bangalore; Dr Kate Adinath Eknath, Scientist, ICAR – Central Institute of Agricultural Engineering, Bhopal; and Dr (Ms) Sirisha Adamala, Assistant Professor, Department of Applied Engineering, Vignan's Foundation for Science, Technology & Research, Guntur, Andhra Pradesh. The prestigious Rathindranath Tagore Memorial Lecture on the topic “New Dimensions in Agriculture Engineering” prepared by Dr Narendra Singh Rathore, Deputy Director General (Agriculture Education), Indian Council of Agricultural Research, PUSA, New Delhi was delivered by Mr P K Sahoo, Principal Scientist and Faculty, Division of Agriculture Engineering, ICAR -- IARI, New Delhi. Dr R K Singh, Head & Principal Scientist, Indian Institute of Soil & Water Conservation Research Centre, Kota, delivered the State-of-the-Art lecture on the topic ‘Rehabilitation of Chambal Ravine for Sustainable Rural Development’. Earlier, Mr C K S Parmar, Chairman of the Centre, welcomed all the distinguished Guests, dignitaries and the participants. Mr Anand Bardava, organizing secretary of the Convention, convened the programme and spoke about the convention theme and its objectives. Mr Jasamat Singh, Honorary Secretary of the Centre, extended the vote of thanks. A Panel Discussion on ‘Future of Agricultural Engineering’, was also organized on this occasion which was chaired by Dr Nutan Kumar Dash, Chairman, Agricultural Engineering Division Board, IEI. A large number of technical papers were embracing the theme of the Convention were presented and discussed during technical sessions.

Application of EPC Contract in Highways : Opportunities & Challenges

Jharkhand State Centre of the Institution in association with Road Construction Department (RCD), Govt. of Jharkhand organized a two-day All India Seminar on the theme 'Application of EPC Contract in Highways : Opportunities & Challenges' under the aegis of Civil Engineering Division Board, IEI during July 21-22, 2018 at Ranchi. Mr Raghubar Das, Hon'ble Chief Minister of Jharkhand graced the occasion as the Chief Guest. Mr Sisir Kumar Banerjee, President, IEI presided over the inaugural session. The other dignitaries present on the occasion included Mr K K Soan, IAS, Secretary, RCD, Govt. of Jharkhand; Mr Rash Bihari Singh, Engineer-in-Chief, RCD, Govt. of Jharkhand; Mr Sanjay Sen, Chairman, Jharkhand State Centre, IEI and Mr Siyaranjan Singh, Convenor of the Seminar. The Chief Guest, Mr Raghubar Das, Hon'ble Chief Minister of Jharkhand, in his address spoke about the road network implemented in Jharkhand and said that quality of road in Jharkhand is better than even Mumbai. He said that there should be no compromise on quality of construction of road in the state of Jharkhand. Hon'ble Chief Minister further emphasized that there is a need to increase knowledge for EPC contract amongst the engineers. He also mentioned that deliberations of this Seminar will achieve the objective and concluded his talk with good wishes to the organizers. Mr Sisir Kumar Banerjee, President, IEI, in his address encouraged engineers of the Jharkhand State Centre, IEI and the organizers of the Seminar. He also appreciated the organizers for selecting such an important topic of

the Seminar which is very useful in highway construction project. Mr K K Soan, IAS, Secretary RCD, Govt. of Jharkhand mentioned that government will provide good environment and work culture for engineers working in this state. Mr Sanjoy Sen, Chairman of the Centre, highlighted various programmes being organized by the Jharkhand State Centre for spreading the engineering knowledge in the state of Jharkhand. He also explained the role being played by State Centre for upliftment of poor students (who are not able to pursue a regular engineering degree) by providing AMIE degree and also through conducting guidance classes free of charge. A Souvenir of the Seminar was brought out on this occasion which was released by the Chief Minister. Mr Rash Bihari Singh, Engineer-in-Chief, Govt. of Jharkhand, proposed the vote of thanks. Papers on various sub-themes of the Seminar were presented and discussed during technical sessions.



Recent Trends in Chemical Engineering and Biotechnology in Mitigation of Global Warming

West Bengal State Centre of the Institution organized a two-day All India Seminar on the theme 'Recent Trends in Chemical Engineering and Biotechnology in Mitigation of Global Warming' under the aegis of Chemical Engineering Division Board, IEI, during August 17-18, 2018 at Kolkata. The Chief Guest, Dr Prabir Mukhopadhyay, Chairman Damodar Valley Corporation, Govt. of India, described the importance of using the electrical goods and loss of energy with enhancement of global warming. In this respect, he emphasized on R&D activities in India. Mr Sisir Kumar Banerjee, President, IEI graced the occasion and addressed the august gathering. He highlighted various activities of the IEI as an open forum, where all engineers can work together. He stressed on more participation of engineering students, so that, they can update their knowledge. The Guest-of-Honour, Mr P K Raychoudhury, Director and Chief Regional Coordinator, Petroleum Conservation and Research Association (PCRA), Govt. of India, described the changing mode of petroleum conservations and highlighted various activities of PCRA. Prof C Bhattacharjee, Dean, FET and Registrar, Jadavpur University, Kolkata, in his Keynote Address, emphasized the importance of membrane technology in capturing Co₂ and mitigation of global warming. Padmashri Prof (Dr) Ajoy Kr Ray, former Director IEST, Shibpur, in his Keynote Address, described in detail the consequences of global warming



along with pollution abatements, specially the heavy metals, like As, Cr, Cd, Pb, as a part of water borne diseases, including microbial contaminations. Earlier, Mr Kashmir Lal Mallik, Chairman of the Centre, welcomed the august gathering. Prof Sarajit Basu, Chairman, Chemical Engineering Divisional Sub-Committee of West Bengal State Centre, IEI highlighted the importance of the theme of the Seminar while Prof N K Brahma, Convener of the Seminar, outlined the detail programme. Mr Ranjan Dutta, Honorary Secretary of the Centre, proposed the vote of thanks. A large number of papers embracing the theme of the Seminar were presented and discussed during various technical sessions.

Quality Evaluation Methods of Textiles

Kolhapur Local Centre of the Institution in association with D.K.T.E. Society's Textile and Engineering Institute, Ichalkaranji organized a two-day All India Seminar on the theme 'Quality Evaluation Methods of Textiles' under the aegis of Textile Engineering Division Board, IEI, during July 27-28, 2018 at Ichalkaranji. This Seminar was inaugurated by Dr P V Kadole, Chairman of the Kolhapur Local Centre, IEI & Director of Textile and Engineering Institute, Ichalkaranji. In his inaugural address, Dr Kadole highlighted various activities of the Institution. He also stressed upon the need for quality evaluation of textiles and certifications. Mr Sanjay Khot and Dr M B Chougule, Committee Members of Kolhapur Local Centre, IEI, were also present in the Inaugural Session. Mr Akira Nishihara and Ms. Yuko Fukui spoke about Nissenken India, Japan and its activities. Mr Varun Gaud, Technical Director, Nissenken India Ltd. talked about the standards of textile evaluation, OekoTex, which is mainly concerned with the safety requirements and test protocols of different standards. He also spoke about SEK Mark which is a certificate of functional finished textile products, such as, antimicrobial processing



methods and process of deodorant testing. Mr Aniket Bhute, Assistant Director, DKTES Centre of Excellence in Nonwovens, covered the whole gamut of testing of nonwoven textiles. Mr B Puroshottama, Member, IEI expressed his concluding remarks at the end of the program. Papers on various sub-themes, such as, quality evaluation of nonwovens, comfort characteristics of apparel fabrics, evaluation techniques of composites, testing of 3D fabrics, thermal characteristics of apparel fabrics, etc were presented and discussed during technical sessions.

National Design Awards - 2018

The National Design and Research Forum (NDRF) of The Institution of Engineers (India) has been formed to promote Design and Research in various branches of engineering. NDRF handles, on behalf of IEI, the schemes relating to the National Design Awards and the All India Student Design Competitions. As you would be aware, with a view of promoting and advancing Engineering Design activity in the Country, NDRF identifies and recognises each year those who have been making outstanding contributions in the field of Engineering Design by giving each year. In keeping with this, NDRF is happy to announce nominations for National Design Awards - 2018.

Entries are invited in the following National Design Awards:

- ❖ National Design Award; ❖ Architectural Engineering Design Award;
- ❖ Environmental Engineering Design Award; ❖ Mechanical Engineering Design Award; ❖ Mining Engineering Design Award; ❖ Prestressed Concrete Design Award; ❖ Suman Sharma Award

The Last date for receiving entries is **31 October 2018**.

For more information, contact National Design and Research Forum, The Institution of Engineers (India), # 3, Dr. B. R. Ambedkar Veedhi, Bangalore - 560 001. Ph: 080-22264336; E-mail: ndrf@ieindia.org or visit NDRF website at www.ndrf.res.in

Cyber Security & Data Protection

Kanchepuram Local Centre of the Institution in collaboration with the Department of Information Technology, Agni College of Technology (ACT) organised a two-day All India Seminar on the theme 'Cyber Security & Data Protection', under the aegis of Computer Engineering Division Board, IEI during August 9-10, 2018. During the inaugural session, Dr Srinivasa Alavandar, Assistant Professor, IT, welcomed the gathering. Dr R S Kumar, gave the presidential address & inaugurated the workshop. In his address, Dr Kumar highlighted various aspects of cyber security and data protection. Dr K Sundaramoorthy, Head, Department of Information Technology, ACT and Organizing Secretary in his thought provoking speech stressed the need for cyber security. Mr S Ramamoorthy, Honorary Secretary of the Centre and Head, Civil Engineering Department, ACT, proposed the vote of thanks. The main aim of the workshop was to highlight the importance and create an in-depth knowledge about cyber security & data protection. Technical

papers embracing the theme of the Seminar, such as, Importance of cyber security in our daily life; Spyware, keylogger & virus security; Email security & social networking website security; Phishing attacks browser privacy & security, etc were presented and discussed during technical sessions.



IEI Celebrates 51st Engineers' Day

Theme: Digital Transformation: A New Industrial Revolution

The 51st Engineers' Day was celebrated by the Institution all over the country on September 15, 2018 to commemorate the 158th birth anniversary of legendary Engineer-Statesman Bharat Ratna Sir M Visvesvaraya. Brief accounts of the celebration as received from various Centres are highlighted hereunder.

CPWD Celebrates Engineers' Day in Association with IEI

Central Public Works Department (CPWD) celebrated Engineers' Day in association with The Institution of Engineers (India) on September 15, 2018 at Nirman Bhawan, New Delhi. Mr Sisir Kumar Banerjee, President of The



Institution of Engineers (India) graced the occasion as the Chief Guest. Mr Prabhakar Kumar Singh, Director General, CPWD presided over the function. Mr A S Arora, Additional Director General (TD), Mr Jayesh Kumar, Additional Director General (NDR), Smt Usha Batra, Addl Director General, (Arch) and other senior officials of CPWD were also present on the occasion.

At the outset, Mr Prabhakar Kumar Singh, Director General, CPWD, welcomed the Chief Guest, Mr Sisir Kumar Banerjee, President, IEI. Mr Sisir Kumar Banerjee, in his address expressed his sincere gratitude to DG, CPWD for taking initiatives to celebrate Engineers' Day by CPWD in association with IEI. Mr Banerjee highlighted various activities of IEI and various initiatives taken by IEI for the promotion of engineering profession in the country. He recalled the colossal contributions of the great engineer, Bharat Ratna Sir M Visvesvaraya on this occasion. Mr Banerjee further elaborated the theme of the Engineers' Day "Digital Transformation : A New Industrial Revolution". Mr Prabhakar Kumar Singh outlined CPWD's achievements in brief and its long-time association with IEI. He emphasised and appreciated the activities of IEI for the betterment of engineering fraternity of the country.

IEI HQ Cell, New Delhi

Mr Sisir Kumar Banerjee, President, IEI, paid rich tribute to Bharat Ratna Sir M Visvesvaraya. The President, IEI greeted the Engineering Fraternity in the country and urged to adopt value and ethics exemplified by Sir M Visvesvaraya for national development. Mr H R P Yadav, Director HQ Cell, New Delhi along with other employees of HQ Cell, attended the ceremony.



STATE CENTRES

Jharkhand

The Chief Guest, Lt Gen (Dr) V J Sundaram, PVSM, AVSM, VSM, (Retd), in his address, highlighted the progress in Missile Programmes of our country from past to present. He stressed that Public Sector Units need to be participated in all defense sector works as they have solid potential to embrace Make in India initiative taken by the Govt. of India. Dr Sundaram also explained various upcoming space projects which needs participation of young engineering community and to gear up and support the GOI initiatives. The Guest-of-Honour, Mr Rana S Chakravarty, Director (Marketing), HEC Ltd. emphasized the importance of using digital components in manufacturing Industry. He also narrated how HEC is working towards industry 4.0 and its importance. He explained that various interconnecting factors of Industry 4.0 are interconnected through State-of-the-Art communication system which include Internet of Things, Internet of Services and Internet of People. Earlier, Mr Sanjay Sen, Chairman of the Centre, in his welcome address, narrated that Industries around the world are presently facing substantial challenges due to recent environmental, societal, economic and technological developments which lead to the fourth stage of industrial revolution. He stressed that increased digitization which waves out traditional and conventional production concepts including mass production, batch production, continuous process flow and project is the need of the hour. Mr Manda Rajananda Kumar, Honorary Secretary of the Centre, proposed the vote of thanks.



Karnataka



Mr Ramachandre Gowda, Former Minister, Govt. of Karnataka and Mr S M Panchagatti, former Chairman, Karnataka Public Service Commission graced the occasion as the Chief Guest and Guest-of-Honour, respectively. Mr Janardhana Swamy, Former Member of Parliament, Chitradurga Constituency, in his keynote address explained how manufacture of products improved with digital transformation. Dr N Chikkanna, Chairman of the Centre presided over the function. Earlier, Mr Jasmail Singh, Honorary Secretary of the Centre, welcomed the guests and dignitaries present on the occasion. Dr N Chikkanna proposed the vote of thanks.

Madhya Pradesh

The Chief Guest, Mr J Santosh, Additional Director & Unit Head, CPRI, Bhopal, appreciated the role of the State Centre for its active involvement in the field of technical activities through Seminars, Workshops and Lectures for the benefit of engineering community. Mr S N Daga, Executive Director

(Retd), BHEL, in his keynote address, elaborated in detail the present scenario of the entire field of Industries and day to day working in all sectors of society which are almost leading towards revolution in the life of every one. Dr S P Narayan, Chief Scientist (Rtd), CSIR, AMPRI, Bhopal while presided over the function, elaborated the role and contribution of engineers and scientists for the development in various engineering fields by digital transformation. Mr P P Agrawal, Council Member, IEI,

in his address appreciated the role of digitalization in almost all areas in life but also lamented the misuse of technology in certain areas. Earlier, Mr Sunil Joshi, Honorary Secretary of the Centre, welcomed the dignitaries. Prof K K S Gautam, Past Chairman of the Centre, proposed the vote of thanks.

Punjab & Chandigarh

Prof Ajay Sharma, Vice-Chancellor, I K Gujral Punjab Technical University, Jalandhar and Maj Gen G S Lamba VSM (Retd.), Principal, Baba Banda Singh Bahadur Engineering College, Fatehgarh Sahib, graced the occasion as the Chief Guest and the Guest-of-Honour, respectively. Both the dignitaries highlighted that engineers have played a significant role for rapid growth of India and attaining highest economic rate. They further elaborated on various aspects of development and contribution of engineers of various streams. The Key Speaker, Dr Hardeep Singh, Professor and Head, Software & Information Systems, Guru Nanak Dev University, Amritsar in his address, spoke about three mutually interconnected factors, namely, digitization and integration of any simple to complex technical-commercial relation, digitization of products and service offers and new market models. Earlier, Mr Janak Raj Garg, Chairman of the Centre, welcomed distinguished guests. Mr S S Mundi, Honorary Secretary of the Centre, proposed the vote of thanks.

Tamilnadu

Dr G Ranganath, Chairman of the Centre, welcomed the august gathering. Mr T M Gunaraja, Council Member, IEI, highlighted the life-sketch of Sir M Visvesvaraya. Dr S Kalirajan, Head, Special Initiatives (Nuclear), L&T Construction, Chennai and Mr G Suresh Gopal, Senior General Manager & Head (Projects), Leitwind Shriram Manufacturing Limited, Chennai, graced the occasion as the Chief Guests and delivered lectures embracing the theme of the day. Mr R Ramanavas, Chairman, Kalpakkam Local Centre, IEI and Dr L Ramesh, Joint Honorary Secretary, Tiruvallur Local Centre, IEI, also attended the function. Mr R Ramdoss, Honorary Secretary of the Centre, proposed the vote of thanks.

LOCAL CENTRES

Ahmednagar

The Chief Guest Mr Rahul Dwivedi, District Collector & District Magistrate, Ahmednagar, said that skilled engineers play pivotal role in the development of the nation. He urged engineers to adopt innovative ideas and new technology in their respective fields and contribute in industrial revolution. Dr Devendra Kyatanavar, Principal, Sanjivani College of Engineering (SCE), Kopargaon,



in his keynote address, stated that digitalization is bringing tremendous changes in technology and everyday new versions of products are being released. Mr K M Raje, Past Chairman of the Centre, graced the occasion as the Guest-of-Honour and addressed the gathering. Mr Avinash D Kulkarni, Chairman of the Centre, presided over the function. Earlier, Mr R P Waykar, Honorary Secretary of the Centre welcomed the gathering and narrated the life sketch of Sir M Visvesvaraya. Prof D A Vidhate, Jt. Honorary Secretary of the Centre proposed the vote of thanks.

Aligarh

Dr Gyan Prakash, Chairman of the Centre, welcomed the gathering and delivered his introductory remarks. The Chief Guest, Prof Mohibullah, Former Dean, Faculty of Engineering & Technology, Aligarh Muslim University (AMU), Aligarh, addressed the gathering on the theme and shared some of his experiences. Prof S S Alam, Past Chairman of the Centre, delivered a thematic address on 'Digital Transformation: A New Industrial Revolution'. Prof Mohammad Kamil, Convener of the programme & Immediate Past Chairman of the Centre, presented a life sketch and contribution of Sir M Visvesvaraya in the field of engineering and technology. Prof Kamil also proposed the vote of thanks.

Belapur

Mr V C Kamble, Past Chairman of the Centre, delivered the welcome address. Mr S P Singh, Honorary Secretary of the Centre, briefed about the biography of Sir M Visvesvaraya. Mr Biswa Das, Rolta India, Mumbai, graced the occasion as the Keynote Speaker. Mr Das in his address, enlightened the gathering about digitalization in industry and Internet of Things (IoT). Mr M B Dagaonkar summed up the programme. Prof P N Tandon, Past Chairman of the Centre, proposed the vote of thanks.

Berhampur

Mr Ashutosh Patra, Chairman of the Centre, presided over the function and welcomed the august gathering. The Chief Guest Mr A J Janarthanan, Chief General Manager & Head, Indian Rare Earths Ltd., OSCOM, Matikhalo, Chatrapur, deliberated on the present industrial scenario of the state and the country. The Guest-of-Honour, Mr Garuda Seetharamayya, Project Head, Gopalpur Ports Ltd. focused on sustainable development of industries with application of updated technology relating to industry 4.0. The other Guest-of-Honour, Mr Ram Dahin Sao, Technical Head, Grasim Industries Ltd., Ganjam, highlighted the challenges being faced in the industrial sector and encouraged the engineers to play a leading role in this respect. The Chief Speaker, Dr Shashi Bhusan Singh, Registrar & Assistant Professor, Physics Department, IISER, Brahmapur, in his keynote address impressed upon the engineering community to acquire sufficient knowledge on emerging technologies and get themselves endowed with innovative ideas. Dr C V G K Murthy, Director (Project), Saraf Titanium Agency Pvt. Ltd, Chatrapur, encouraged the engineers to follow the footsteps and adopt the principles of the great engineers and transform India as the super power of the world. Mr Sanjaya Kumar Moharana, Honorary Secretary of the Centre, proposed the vote of thanks.



Bokaro Steel City

The Chief Guest, Mr P K Singh, Chief Executive Officer, SAIL, Bokaro Steel Plant, in his address stated that technical knowledge and expertise can only augment the fast development of the society, state and the country. 'Role of infrastructure construction and digital technology transformation is vital and essential for which young engineers should come forward to accelerate



the pace of development of the Country', he opined. The Guest-of-Honour, Mr R C Srivastava, Executive Director (Projects), SAIL, Bokaro Steel Plant, stressed upon the fast decision making covering risk factors in execution of projects for development. Mr B K Prasad, Deputy General Manager (C & IT), SAIL, Bokaro Steel Plant, elaborated various aspects of digital technology transformation and its usefulness. Earlier, Mr A C Goyal, Chairman of the Centre, welcomed the gathering and elaborated theme of the day. Mr Y N Singh, Honorary Secretary of the Centre, proposed the vote of thanks.

Coimbatore

Dr S Thangavelu, Chairman of the Centre, welcomed the guests and presided over the function. Mr P Ponram, Chairman, Union Engineers, Coimbatore graced the occasion as the Chief Guest and addressed the gathering on the theme of the day. Dr P Karuppuswamy, Committee Member of the Centre, introduced the Chief Guest. Dr M Senthilkumar, Honorary Secretary of the Centre, proposed the vote of thanks.



Dharwad

The Chief Guest, Dr C B Akki, Professor, Computer Science Engineering, Indian Institution of Information Technology (IIIT) Dharwad, explained the role of cyber physical system, cognition computation and Association rule in managing all the processes in all fields of industrial and engineering systems. 'Internet of Things (IoT) is now encompassing everything thus leading to Internet of Everything (IoE) and the digital transformation is leading to an Industrial Revolution 4.0', he added. Mr S M Venkareddy Narayan, Chairman of the Centre, presided over the function. He highlighted that the world is becoming smart in all aspects due to the advancement of science and technology leading to better comfort of the society. Earlier, Mr V H Jadhav welcomed the gathering. Mr A K Kulkarni briefed about the significance of day and presented the life-sketch of Sir M Visvesvaraya. Prof (Dr) Ramesh L Chakrasali, Honorary Secretary of the Centre, proposed the vote of thanks.



Jodhpur

Prof S K Parihar, Chairman of the Centre delivered the welcome address. Mr S K Mishra, General Manager and Project Director, National Highways Authority of India, Jodhpur, graced the occasion as the Chief Guest and addressed the gathering. Prof (Dr) Shantanu Chowdhury, Director, Central Electronics Engineering Research Institute, presided over the function. In his address, Prof Chowdhury explained that due to the easy availability of information technology, hardware and software, there has been considerable change in industrial processes and operations. 'In this context, the main interaction has been done through the production of modern sensors and through the interdisciplinary telecommunications', he added. Mr Gautam Arora, Divisional Railway Manager, North Western Railway; Mr Jaswant Khatri, Superintending Engineer of PWD and Mr Navneet Agarwal, General Manager, IET Group of Institution were present as Special Guests. Prof Akhil Ranjan Garg, Honorary Secretary of the Center, proposed the vote of thanks.



Kadapa

Mr G Gopal, Chairman of the Centre, presided over the function and paid tributes to Sir M Visvesvaraya. He explained how Sir M Visvesvaraya could be emulated as a Role Model. The Chief Guest, Mr Syed Magbul Ahmed, Chief Engineer (Projects), Telugu Ganga Projects (TGP), Kadapa, graced



illustrated on the sterling qualities of Sir M Visvesvaraya. Dr B Abdul Rahim, Dean, Professional Bodies, AITS, Rajampet, discussed various aspects embracing the theme of the day with latest information.

Mr C Sree Ramachandra Murthy, Honorary Secretary of the Centre, enlightened the audience about the significance of the day and advised the budding engineers to imbibe the character of Sir M Visvesvaraya. The function ended with the vote of thanks proposed by Mr V Adinarayana Reddy, Committee Member of the Centre.

Ludhiana

The Chief Guest, Dr Sehijpal Singh, Principal, Guru Nanak Dev Engineering College Ludhiana, stressed upon producing quality engineers who could take up the challenge of fast changing world. He suggested that proper interaction of industry with academia would go a long way in fostering young engineers. Earlier, welcoming the guests, Dr Arvind Dhingra, former Honorary Secretary of the Centre stated that Engineers' Day is celebrated to rededicate ourselves for propelling the cause of engineering. Mr Balbir Singh, former Council Member, IEI, elaborated the theme of the day. While delivering the vote of thanks, Brig. Mastinder Singh, Chairman of the Centre mentioned that engineering community should work to uplift the society and resolve the problems. Summing up the technical sessions, he stated that Industry 4.0 is focused on creating intelligent products, processes and procedures that lead to ubiquitous connectivity of people, things and machine.



North Bengal

Mr Asim Mahapatra, Honorary Secretary of the Centre, delivered the welcome address. Mr G K Panda, Chairman of the Centre, paid rich tribute to Sir M Visvesvaraya. Mr Animesh Hazra, Assistant Professor, CSE Department, Jalpaiguri Govt. Engineering College, Jalpaiguri briefly narrated the life-sketch of Sir M Visvesvaraya. The theme Speaker, Ms Jhuma Dutta, Assistant Professor, CSE Department, Jalpaiguri Govt. Engineering College, Jalpaiguri, stated that industries around the world are now facing substantial challenges due to recent environmental, societal and technological developments regarding innovative concepts of Internet of Things (IoT), cyber physical system or cloud based manufacturing which lead to the fourth stage of industrial revolution, termed as Industry 4.0. She briefly described various aspects of Industry 4.0. Mr N C Sadhukhan, Member of the Centre, proposed the vote of thanks.



Pantnagar

Dr B S Bisht, Former Vice Chancellor, G B Pant University of Agriculture & Technology, graced the occasion as the Chief Guest. Dr Bisht, in his speech, highlighted the valuable contributions of Sir M Visvesvaraya in building up of the nation. Other dignitaries present on the occasion included Dr H C Sharma, Dean Technology and Dr S S Gupta, Professor, Department of Civil Engineering, College of Technology. Dr Sanjay Mathur, Chairman of the Centre expressed his views and spoke



Contd. on page 12

IEI Celebrates Royal Charter Day

The Institution of Engineers (India) was incorporated by Royal Charter on September 9, 1935 by King and Emperor George V at the Court at Buckingham Palace, London and remains the only professional body in India to be accorded this honour. This endowed the Corporate Members of the Institution with the right to use the title 'Chartered Engineer' after their names, implying that they are qualified engineers deemed worthy to hold a Charter. The 'Royal Charter Day' was celebrated by IEI all over the country on September 9, 2018. A brief accounts of celebration as received from various Centres are reported hereunder.

STATE CENTRES

Gujarat



A lecture on 'Drones: Is Sky the Limit' was organized on this occasion. Mr Hem Soparkar, Technical Advisor, ELECTROBOTIC, Ahmedabad, narrated at length about the background of Drones and explained its designing, limitation,

application in various fields like agriculture, textile, goods deliver, army, communication, photography, etc. Mr Soparkar also spoke about license procedure from various government agencies depending upon types and size of Drones and commercial market in India and abroad in near future. Earlier, Prof P B Jhala, Committee Member of the Centre, briefed about various activities of IEI and highlighted the background of incorporation IEI under Royal Charter.

West Bengal

Eminent Speakers, namely, Dr N R Bandyopadhyay, Professor and Head Dr M N Dastur School of Materials Science and Engineering, IEST, Shibpur; Mr Yatish Kumar, Chairman and Managing Director, Braithwaite & Company Limited, Govt. of India Undertaking and Dr Prabir Kumar Mukhopadhyay, Chairman, Damodar Valley Corporation, Govt. of India, graced the occasion with their august presence and spoke at length on Royal Charter Day. Earlier, Mr Kashmir Lal Mallik, Chairman of the Centre, welcomed the gathering and highlighted the brief history of Royal Charter Day. Mr Ranjan Dutta, Honorary Secretary of the Centre, proposed the vote of thanks.



LOCAL CENTRES

Agra

Prof (Dr) B D K Patro, Chairman of the Centre, welcomed the august gathering.



Mr Sisir Kumar Banerjee, President, IEI, graced the occasion as the Chief Guest. In his address, Mr Banerjee narrated future planning of IEI, new ventures in the field of engineering and availability of high technology lab in the technical colleges for

the students. He further highlighted that the grant of Royal Charter was an outstanding event in the history of IEI, as it was the first such recognition extended to a professional body which had its origin and functions in India. 'This endowed the Corporate Members of the Institution with the right to use the title 'Chartered Engineer' after their name, implying that they are qualified engineers deemed worthy to hold a Charter', Mr Banerjee added. Prof K Hans Raj, Dean, DEI Dayal Bagh, Agra; Mr Arun Kumar Saxena, Director, ADRDE and Maj Kamini Pokharia, Administrative Officer, 509 Army Base Workshop, graced the occasion as the Keynote Speakers. Prof Raj spoke on agile manufacturing and its relevance for the engineering applications. Dr Saxena narrated about use of renewal energy, waste management and IoT in the field of engineering and for the progress of the science and technology. Maj Pokharia, spoke about the advancement of engineering, intelligent cars, robotics and tele health etc. Mr D S Chaudhary, Immediate Past Chairman of the Centre, emphasized the importance and significance of granting Royal Charter to IEI. Dr Ashok Yadav, Honorary Secretary of the Centre, proposed the vote of thanks.

Ahmednagar

Mr Avinash D Kulkarni, Chairman of the Centre, highlighted the importance of the Royal Charter Day. On this occasion, a technical lecture on the theme 'An Overview of Military Vehicles' was organised. The Speaker Mr Harishchandra B Thigale, Scientist 'E,' Vehicles Research & Development Establishment and Immediate Past Honorary Secretary of the Centre, presented an introduction of Armoured Fighting vehicles, Necessity of Armoured Fighting Vehicles, Armoured Personnel carriers, Infantry Combat vehicles; etc. He described the role of AFVs and necessity of AFVs for military. Mr R P Waykar, Honorary Secretary of the Centre, proposed the vote of thanks.



Bareilly

Mr S C Mehra, Chairman of the Centre, in his welcome address, spoke about the significance of celebrating Royal Charter Day. A galaxy of speakers, namely, Mr K B Agarwal, Founder Chairman; Mr S C Sundrani, Past Chairman; Mr S K Gupta, IP Honorary Secretary; Mr N C Atri, Committee Member, Bareilly Local Centre; Mr Shailendra Deva, SRMS (IM), Bareilly; Dr P P Singh, Invertis University, Bareilly and Mr Surjeet Singh, (Retd), Jal Nigam, graced the occasion and spoke on Royal Charter Day. Dr Pankaj Omprakash Sharma, Honorary Secretary of the Centre, proposed the vote of thanks.



Belapur

Mr Shashi Prakash Singh, Honorary Secretary of the Centre delivered Royal Charter Day lecture on the topic 'Explore Introduction to Properties, Applications, Advanced Applications, Modulation and Hazards of EM Waves'. On this occasion, Mr Shishir Jagtap, Assistant Professor, SIES College of Engineering delivered a lecture on 'Advanced Electromagnetic Science and Its Applications'. Earlier, Mr Surya Sevak Singh, Committee Member and Past Chairman of the Centre, delivered welcome speech and proposed the vote of thanks.

Bokaro Steel City

Mr A C Goyal, Chairman of the Centre, welcomed the dignitaries and highlighted the importance of celebrating Royal Charter Day. Mr Y N Singh, Honorary Secretary of the Centre explained in detail about Royal Charter and its significance. He further spoke about genesis of IEI



in chronological order and its role to promote and advance the engineering and technology. Mr S K Pradhan, Executive Committee Member of the Centre, explained about the adoption of latest technology in Coke Oven Plant for increasing productivity. Mr Jayant Kumar spoke about technological advancement in Genome editing, pharmaceutical, Smart automation system in energy sector, High speed reliable communication technology 4G & 5G, Block chain technology in banking sector, etc in everyday life. Mr S K Pradhan proposed the vote of thanks.

Dhanbad

Mr Murlidhar Bidri, Director of Mines Safety (S&T), DGMS, Dhanbad graced the occasion as the Chief Guest and delivered lecture on the theme of the day. Mr H N Karmakar, Past Chairman of the Centre and Dr R K



Srivastava, Former Professor, BIT, Sindri & Senior Committee Member of the Centre, delivered lectures on Royal Charter of The Institution of Engineers (India) for advancement of science and technology. Dr T N Singh, Past Chairman of the Centre,

presided over the function. Earlier, Mr S Ratnaker, Joint Honorary Secretary of the Centre, introduced the theme of the day on 'Advancement of Science and Technology and Information on the Royal Charter and its Significance'. Dr K K Singh, Honorary Secretary of the Centre, proposed the vote of thanks.

Dharwad

The Chief Guest, Prof (Dr) S M Shivaprasad, Director, Karnataka State Higher Education Academy and Professor, International Centre for Materials Science and Chemistry and Physics of Materials Unit JNC for Advance Scientific Research Bengaluru, delivered a talk on 'Alice in Nano land' highlighting the latest trends and developments in the field of nano science. 'An emotional connect of an individual will lead to a meaningful, successful, useful and worthy research findings that brings positive impact on the society', opined Prof Shivaprasad. He mentioned that the research in nano science is happening quite significantly and will play an important role in dictating the life style of the society including the life span of human beings in the days to come. Mr S M Venkareddy Narayana, Chairman of the Centre, presided over the function and addressed the gathering on nano science. Earlier, Mr V H Jadhav welcomed the gathering. Prof (Dr) Ramesh L Chakrasali, Honorary Secretary of the Centre, proposed the vote of thanks.



Durgapur

Maj Gen (Dr) S Bhattacharya VSM, (Retd), Secretary & Director General of IEI, graced the occasion as the Special Guest. Maj Gen Bhattacharya, in his



address spoke about Royal Charter and explained it vividly. He mentioned that it recognizes the standard which governs the institution carefully. He further continued that this gives the recognition of IEI for its standard as educational institution and IEI is the

only recipient of this Royal Charter in India. Earlier, Mr R K Roy, Chairman of the Centre, welcomed the Special Guest and the august gathering and explained in brief about the significance of Royal Charter Day. Mr M N Bandyopadhyay, Honorary Secretary of the Centre proposed the vote of thanks.

Ghaziabad

Prof (Dr) H S Sharma, Chairman of the Centre, presided over the function. Prof Sharma, in his welcome address, narrated the history of IEI and the

importance of Royal Charter in its functioning. Mr S S Sharma, Past Chairman of the Centre and Member, UPSCC, graced the occasion as the Chief Guest and discussed at length about various activities of IEI. Mr Manish Bhardwaj, Convener, briefed about the objectives of Royal Charter and steps taken to achieve the same. Dr S C Gupta, Honorary Secretary of the Centre, proposed the vote of thanks.



Gorakhpur

Mr M W Beg, Chairman of the Centre, welcomed the dignitaries and the participants and highlighted the importance of Royal Charter Day. Mr Hari Singh, Faculty of a Degree College in Computer Science, graced the occasion as the Chief Guest. Mr Singh, in his address, elaborated various activities of IEI and the Royal Charter. Mr Akhtar Ali,



Faculty in Sant Kabir Nagar Degree College, delivered Keynote Address. Mr M W Beg proposed the vote of thanks.

Kanyakumari

Mr V Sivathanupillai, Retd. Chief Engineer, TNEB, in his special address highlighted various activities of IEI and its growth of since 1920. He narrated 'What is meant by incorporated by Royal Charter'. Mr N Chellappa, Retd. Superintending Engineer, TNEB, discussed at length about the Nuclear Power and Safety. Mr G Siva Subramanian, Chairman of the Centre, presided over the function. In his address, Mr Subramanian in his address spoke about dedicated technical activities of the Institution for the engineering community and thereby to the nation at large. Mr S Natarajan, proposed the vote of thanks.



Mysore

The Chief Guest, Mr A S Satish, Past Chairman of the Centre, in his address, informed that IEI got the Royal Charter by his majesty the King Emperor George V at the court of Buckingham Palace to promote and advance the science, practice business of engineering. He further stated that IEI is the only body in India having power to award Charter Engineer Certificate to all Associates. Mr B V Ravindranath, Honorary Secretary of the Centre, proposed the vote of thanks.



South Gujarat

Dr P H Tandel, Chairman of the Centre, welcomed the guests and dignitaries. Mr Mukund B Master, Honorary Secretary of the Centre, narrated briefly about the Royal Charter of the Institution. Mr Nirav S Shah, Deputy Mayor, Surat Municipal Corporation, Surat, graced the occasion as the Chief Guest and addressed the gathering. Dignitaries, namely, Mr Jayesh Dave and Mr Jenish Patel delivered lectures on the topic 'Solar Energy Application in Domestic Life'. They explained that



solar energy provides power without producing greenhouse gases and it is a completely renewable source of energy. Mr Mukund B Master proposed the vote of thanks.

Tiruchirappalli

Mr R Selvaraj, Chairman of the Centre, welcomed the dignitaries and explained the importance of Royal Charter and its exclusiveness. On this occasion, the



speaker, Mr N Rajasekaran, Deputy General Manager, BHEL, Tiruchy, delivered lecture on the topic 'Indian Engineering & Technology – the Past, Present and Future and the Role of Engineers'. He recalled the contributions of the ancient India in engineering including metallurgical, civil, architecture, aerospace, etc.

with examples. He also traversed back on the history of charters and the uniqueness of the Royal Charter status of IEI. He thankfully recalled the services of great engineers and technocrats of the independent India for their valuable contributions to the nation. Mr S Samidas, Past Chairman of the Centre, also attended the function. Mr S Lakshmanan, Honorary

Secretary of the Centre, conducted the proceedings. Mr Leelavinothan proposed the vote of thanks.

Udaipur

Mr Anurodh Prashant, Chairman of the Centre, welcomed the Chief Guest and other dignitaries and briefed about the significance of celebrating Royal Charter Day. The Chief Guest Mr A K Shrimali, Executive President (Engineering), R K Marbles, Udaipur, briefed about technology used in space, defense and communication. He further emphasized that in our country we have to enhance the skill of labour, so that, productivity of industry may increase. The Keynote Speaker, Dr Deepak Shamra, Professor & Principal-



in-Charge, College of Technology and Engineering, Udaipur, shared his views on advancement of science, technology and information and explained technical quality and achievements in India. Mr A S

Choondawat, Past Chairman of the Centre, while speaking on Royal Charter informed that in British time, Royal Charter was a symbol of Quality and in India it was granted to The Institution of Engineers (India) only. Mr Anurodh Prashant proposed the vote of thanks.

IEI Celebrates 51st Engineers' Day

Contd. from page 9

about important information about vision and mission of Sir M Visvesvaraya for better India. Earlier, Dr V K Verma, Honorary Secretary of the Centre welcomed the guests and dignitaries and highlighted the life-sketch of Sir M Visvesvaraya.

Pilani

Prof S B Dandini, Chairman of the Centre, welcomed the gathering. Maj. Gen. Anirudh Banerjee (Retd.), Chief Executive, B K Birla Institute of Engineering and Technology (BKBIET), Pilani and Dr A K Sarkar, Director, BITS Pilani, graced the occasion as the Chief Guest and Guest-of-Honour, respectively. Maj. Gen. Banerjee addressed the

gathering on the importance of the theme while Dr Sarkar shared his vast experiences related to the theme. Other dignitaries present on the occasion included: Dr L Solanki, Principal (Academics), BKBIET, Pilani; Mr Manoj Gaur, Principal, BTTI, Pilani; Mr J P Singh, Principal, ITI Pilani and Dr K S Sangwan, Professor, BITS Pilani. At the end of the programme, Ms Smita Pareek, Honorary Secretary of the Centre, proposed the vote of thanks.

IEI DIARY



Aerospace Engineering Division

All India Seminar on “**Bluff Body Aerodynamics**”
Kolkata, January 18-19, 2019
The Honorary Secretary, IEI, West Bengal State Centre, 8 Gokhale Road, Kolkata 700020 [☎: (033)22238914; Fax: (033) 22233140; e-mail: wbsc@ieindia.org]

All India Seminar on “**Emerging Trends in Aircraft Structure Materials**”
Pune, February 16-17, 2019
The Honorary Secretary, IEI, Pune Local Centre, Abhiyanta Bhavan, 1332, J M Road, Shivajinagar, Pune 411005, Maharashtra [☎: 020-25533376 / 25520239 / 25530150; e-mail: punelc@ieindia.org]

Thirty-third National Convention of Aerospace Engineers on “**Emerging Technologies in Aerospace Structures, Materials and Propulsion System**”
Pune, November 15-16, 2019
The Honorary Secretary, IEI, Pune Local Centre, Abhiyanta Bhavan, 1332, J M Road, Shivajinagar, Pune 411005, Maharashtra [☎: 020-25533376 / 25520239 / 25530150; e-mail: punelc@ieindia.org]

Thirty-fourth National Convention of Aerospace Engineers on “**Advances in Aerospace Engineering**”
Kanpur, November 9-10, 2020
The Honorary Secretary, IEI, Kanpur Local Centre, Engineers Bhawan, HBTI East Campus, Nawabganj, Kanpur 208002 [Telefax: (0512) 2560034; e-mail: kanpurlc@ieindia.org]

Agricultural Engineering Division

National Conference on “**Agricultural Engineering Interventions for Sustainable Organic Hill Farming**”
Gangtok, February 1-2, 2019
The Honorary Secretary, IEI, Sikkim State Centre, First Floor, North Academic Block, Central Agricultural University Campus, College of Agricultural Engineering & Post Harvest Technology, Ranipool 737135 [e-mail: sikkimsc@ieindia.org]

International Conference on “**Role of Agricultural Engineering towards Global Food Security**”
Bangalore, April 11-13, 2019

The Honorary Secretary, IEI, Karnataka State Centre, 3, Dr B R Ambedkar Veedhi, Bangalore 560001 [☎: (080) 22264698; Telefax: (080) 22256191; e-mail: karnatakasc@ieindia.org; website: www.ieiksc.org]

Thirty-third National Convention of Agricultural Engineers on “**Commercial Crops Processing and Value Addition**”

Agartala, August 10-11, 2019

The Honorary Secretary, IEI, Tripura State Centre, Pandit Nehru Complex, Near Tripura Housing Board, P. O. Kunjaban, PB No 139, Agartala 799 006 [☎: 0381-2304700; Fax: 0381-2304700; e-mail: tripurasc@ieindia.org]

Architectural Engineering Division

Thirty-fourth National Convention of Architectural Engineers on “**Architectural Engineering for Socio-economic Development**”

Mangalore, November 24-25, 2018

The Honorary Secretary, IEI, Mangalore Local Centre, 2nd Floor Opal Complex, Opp Bejai Church Bejai, Mangalore 575 004; [☎: 0824-2400112; e-mail: mangalorelc@ieindia.org]

International Conference on “**Architectural Innovations: Engineering, Technology and Materials**”

Kolkata, November 27-29, 2019

The Honorary Secretary, IEI, West Bengal State Centre, 8 Gokhale Road, Kolkata 700020 [☎: (033)22238914; Fax: (033) 22233140; e-mail: wbsc@ieindia.org]

All India Seminar on “**Structural Aspects of Architectural Engineering**”

Jaipur, December 29-30, 2018

The Honorary Secretary, IEI, Rajasthan State Centre, Gandhi Nagar, Tonk Road, Jaipur 302015 [☎: 0141-2706327; Telefax: 0141-2700413; e-mail: rajasthansc@ieindia.org]

Workshop on “**Real Estate Regulatory Authority (RERA)**”

Goa, January 18-20, 2019

The Honorary Secretary, IEI, Goa State Centre, D Type Quarters, D-8-1, Government Polytechnic Campus, Altinho, Panaji, Goa 403001 [☎: 0832-2434686; e-mail: goasc@ieindia.org; website: www.ieigoasc.org]

Chemical Engineering Division

All India Seminar on “**Treatment of Sewage Water for Irrigation Purpose**”

Bhopal, January 05 – 06, 2019

The Honorary Secretary, IEI, Madhya Pradesh State Centre, M Visvesvaraya Marg, PO: Habibganj, Bhopal 462024 [☎: 0755-250577/2502987; e-mail: mpssc@ieindia.org; website: www.mpsciei.org]

Civil Engineering Division

Workshop on “**National Building Code**”

Gangtok, November 03, 2018

The Honorary Secretary, IEI, Sikkim State Centre, First Floor, North Academic Block, Central Agricultural University Campus, College of Agricultural Engineering & Post Harvest Technology, Ranipool, Gangtok 737135 [e-mail: sikkimsc@ieindia.org]

One Day Seminar on “**Development of Rural Sector : Inclusive Approach through Advanced Technologies**”

Solapur, December 13, 2018

The Honorary Secretary, IEI, Solapur Local Centre, Vastu Vaibhav, 3, North Kasaba, 4th Floor, Near Laxmi Bank, Shivaji Chowk, Solapur 413 001 [☎: 0217-2727707; e-mail: solapurlc@ieindia.org]

Computer Engineering Division

Thirty-third National Convention of Computer Engineers on “**Computer Cognitions and Intelligent Systems**”

Ghaziabad, February 15-16, 2019

The Honorary Secretary, IEI, Ghaziabad Local Centre, 15 Shopping Complex, ALTT Centre, Rajnagar, Ghaziabad 201002 [☎: 0120-2728699/2702673; e-mail: ghaziabadlc@ieindia.org]

Electrical Engineering Division

Thirty-fourth National Convention of Electrical Engineers on “**Recent Advancement in High Voltage Direct Current (HVDC) Transmission**”

Agartala, November 16-17, 2018

The Honorary Secretary, IEI, Tripura State Centre, Pandit Nehru Complex, Near Tripura Housing Board, PO : Kunjaban, PB No. 139, Agartala 799006, Telefax : 0381-2304700 [email : tripurasc@ieindia.org]

All India Seminar on “**Renewable Energy Technologies: Perspectives and Challenges**”

Chandigarh, November 16-17, 2018

The Honorary Secretary, IEI, Punjab & Chandigarh State Centre, Sector 19A Madhya



Marg, Chandigarh 160 019 [☎: 0172-2775418; Fax: 0172-2540133; e-mail: pcsc@ieindia.org]

One Day Seminar on “Robotics Monitoring of Power Systems”

Salem, January 01, 2019

The Honorary Secretary, IEI, Salem Local Centre, 3rd Floor, SPC Bhawan No. 104/7, Manivannan Street, Opp to Salem New Bus Stand, Salem 636004 [Ph. 0427 2332544; e-mail: salemic@ieindia.org]

All India Workshop on “Application of Power Electronics in Electrical Systems”

Chandigarh, January 15-16, 2019

The Honorary Secretary, IEI, Punjab & Chandigarh State Centre, Sector 19A Madhya Marg, Chandigarh 160 019 [☎: 0172-2775418; Fax: 0172-2540133; e-mail: pcsc@ieindia.org]

Electronics & Telecom. Engg. Division

Thirty-fifth National Convention of Electronics & Telecommunication Engineers on “Mechatronics: Bridge between Technologies”

Pune, November 23-24, 2019

The Honorary Secretary, IEI, Pune Local Centre, Abhiyanta Bhavan, 1332, J M Road, Shivajinagar, Pune 411005, Maharashtra [☎: 020-25533376 / 25520239 / 25530150; e-mail: punelc@ieindia.org]

Environmental Engineering Division

Thirty-fifth National Convention of Environmental Engineers on “Green Technology for Clean & Green India”

Bangalore, August 17-18, 2019

The Honorary Secretary, IEI, Karnataka State Centre, No. 3, Dr. B R Ambedkar Veedhi, Bangalore 560001 [☎: 080-22264698; Telefax: 080-22256191; e-mail: karnatakasc@ieindia.org; www.ieiksc.org]

All India Seminar on “Solid Waste Management: An Industrial Perspective”

Bokaro Steel City, September 21-22, 2019

The Honorary Secretary, IEI, Bokaro Steel City Local Centre, Abhiyanta Bhawan, Sector V-A, Bokaro Steel City 827006 [☎: 06542-267227/288972; e-mail: bokarolc@ieindia.org]

Marine Engineering Division

International Conference on “Marine Engineering and Ocean Technology – Digital Ocean”

Kancheपुरam, February 15-17, 2019

The Honorary Secretary, IEI, Kancheपुरam Local Centre, Agni College of Technology – ACT, Old Mahabalipuram Road, Thalambur, Chennai 600130 [e-mail: kancheपुरamlc@ieindia.org]

Mechanical Engineering Division

All India Seminar on “Optimization Techniques in Mechanical Engineering”

Chandigarh, November 12-13, 2018

The Honorary Secretary, IEI, Punjab & Chandigarh State Centre, Sector 19A Madhya Marg, Chandigarh 160 019 [☎: 0172-2775418; Fax: 0172-2540133; e-mail: pcsc@ieindia.org]

Thirty-fifth National Convention of Mechanical Engineers, on “Trends and Developments in Automotive Industry”

Hosur, September 13-14, 2019

The Honorary Secretary, IEI, Hosur Local Centre, No.69, Kamaraj Nagar, Kumudepall, Near Adhiyamaan College of Engineering, Tamilnadu, Hosur 635109 [e-mail: hosuric@ieindia.org]

Thirty-sixth National Convention of Mechanical Engineers, on “Innovations in Thermal Science and Engineering”

Agartala, September 05-06, 2020

The Honorary Secretary, IEI, Tripura State Centre, Pandit Nehru Complex, Near Tripura Housing Board, P. O. Kunjaban, PB No 139, Agartala 799 006 [☎: 0381-2304700; Fax: 0381-2304700; e-mail: tripurasc@ieindia.org]

Metallurgical & Mater. Engg. Division

Thirty-second National Convention of Metallurgical & Materials Engineers on “Advances in Engineering Materials for Sustainable Development”

Jamshedpur, January 18-19, 2019

The Honorary Secretary, IEI, Jamshedpur Local Centre, Subarnarekha Link Sakchi, Jamshedpur 831 001 [☎: 0657-2234316; Fax: 0657-2230159; e-mail: jamshedpurlc@ieindia.org]

International Conference of Metallurgical & Materials Engineers on “Synthesis, Characterization and Application of Nanomaterials (SCAN)”

Kolkata, November 01-03, 2019

The Honorary Secretary, IEI, West Bengal State Centre, 8 Gokhale Road, Kolkata 700020 [☎: (033)22238914; Fax: (033) 22233140; e-mail: wbsc@ieindia.org]

Mining Engineering Division

Thirtieth National Convention of Mining Engineers on “Trends and Developments in Mining Industry for Encouraging Investment”

Hosur, December 07-08, 2018

The Honorary Secretary, IEI, Hosur Local Centre, No.69, Kamaraj Nagar, Kumudepall, Near Adhiyamaan College of Engineering, Tamilnadu, Hosur 635109 [e-mail: hosuric@ieindia.org]

Production Engineering Division

Thirty-fifth National Convention of Production Engineers on “Emerging Technologies in Power Sector Equipment Manufacturing”

Tiruchirappalli, May 25-26, 2019

The Honorary Secretary, IEI, Tiruchirappalli Local Centre, BHEL Main Office Road, Tiruchirappalli 620014 [☎: 0431-2554285; Fax: 0431-2520383/2520775; e-mail: tiruchirappallilc@ieindia.org]

Textile Engineering Division

Thirty-second National Convention of Textile Engineers on “Technology Innovations and Value Added Products in Textile Supply Chain”

Coimbatore, January 04-05, 2019

The Honorary Secretary, IEI, Coimbatore Local Centre, PSG College of Technology Campus, Peelamedu, Coimbatore 641004 [☎: 0422-2580733; e-mail: coimbatorelc@ieindia.org]

Interdisciplinary

All India Seminar on “Problem of Mechanization in Sand Mining and Methodologies to be adopted for Environmentally Sustainable Mining of Sand from Rivers”

Ranchi, November 23-24, 2018

The Honorary Secretary, IEI, Jharkhand State Centre, Engineers Bhawan, Nepal Kothi Campus, Doranda, Ranchi 834002 [☎: 0651-2491334; e-mail: jharkhandsc@ieindia.org; website: www.ieijsc.org]

One Day Seminar on “Role of Engineers in Development of Technologies for a better Quality of Human Life”

Ranchi, December 09, 2018

The Honorary Secretary, IEI, Jharkhand State Centre, Engineers Bhawan, Nepal Kothi Campus, Doranda, Ranchi 834002 [☎: 0651-2491334; e-mail: jharkhandsc@ieindia.org; website: www.ieijsc.org]

Notification for R&D Grant-in-Aid (2018-19)

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/Ph. D 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 2017-2018 for funding industry-oriented R&D projects and research initiatives aimed at improving the life-style of common people from engineering students pursuing Diploma/UG/PG/Ph. D courses. 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 (AMIE/MIE/FIE) of IEI. Membership criteria for students are as follows:

Project Category	Student/Applicant Membership
1. Diploma	Not mandatory. Membership of Student Chapter is desirable
2. UG (BE/B. Tech/AMIE/Equivalent)	Preferably 'Student Member' (SMIE)
3. PG (ME/M. Tech/Equivalent)	Should be 'Corporate Member'
4. Ph. D	Should be 'Corporate Member'

The soft copy of the duly filled-up applications (in editable format), as per the given proforma, should be sent through email to research@ieindia.org and one printed copy of the same, duly sealed and signed 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). 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.

TWENTY-SIXTH IEI CONVOCATION AND TECHNICIANS'/STUDENTS' CONVENTION

Ranchi, November 03-04, 2018

Theme
Challenges and Opportunities in Sustainable Development

Sub-themes:

Technical papers are invited on following sub-themes:

- Advanced Manufacturing Creation for Sustainability
- Sustainable Design and Innovation in Product Development
- Sustainable Transport Infrastructure
- Renewable Energy and its Impact on Environment

With this in focus, papers are invited from Technician/Senior Technician members, students of polytechnics and engineering colleges for presentation in the All India Technicians'/Students' Convention to be held on November 03, 2018 at Ranchi, Jharkhand. The papers shall be on innovative ideas, design, prototype and technology development, case studies, survey details augmenting innovations, etc. pertaining to the theme so as to reach at Jharkhand State Centre latest by September 25, 2018.

Organized by:

The Institution of Engineers (India)

Hosted by:

Jharkhand State Centre

For further information, please contact :

The Organising Secretary (Convocation 2018)
The Institution of Engineers (India)
Jharkhand State Centre
Engineer Bhawan, Nepal Kothi Campus
Doranda, Ranchi 834002, Jharkhand
Phone : 9431392111
E-mail: ieiconvocation2018@gmail.com

Superannuation from IEI



Mr Debasish Paul, an employee of the Institution HQ will be superannuated from the services of IEI on October 31st, 2018. He joined the Institution on May 01, 1983 and rendered his services to the Institution for a period of over 35 years.

IEI wishes Mr Debasish Paul and his family a happy and healthy life in future.



33rd INDIAN ENGINEERING CONGRESS

Udaipur, December 21-23, 2018

Theme:

Integration of Technologies: Emerging Engineering Paradigm

Organized by:

The Institution of Engineers (India)

Hosted by: **Udaipur Local Centre**

Contact : Organising Secretary, 33rd Indian Engineering Congress, The Institution of Engineers (India), Udaipur Local Centre

128 Hiran Magri, Sector 11, Near Seva Charitable Hospital, Udaipur 313002

E-mail: udaipurlc@ieindia.org



IEI - Springer Journal



ISSN Print: 2250-2149
ISSN Online: 2250-2157
SCOPUS Indexed



ISSN Print: 2250-2106
ISSN Online: 2250-2114
SCOPUS Indexed



ISSN Print: 2250-0545
ISSN Online: 2250-0553
SCOPUS Indexed



ISSN Print: 2250-2122
ISSN Online: 2250-2130
SCOPUS Indexed



ISSN Print: 2250-2483
ISSN Online: 2250-2491
SCOPUS Indexed

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IEI NEWS

ISSN 0971-3352

Owner : The Institution of Engineers (India), 8 Gokhale Road, Kolkata 700 020
Printer : Maj Gen S Bhattacharya, VSM (Retd), Secretary & Director General
Publisher : Maj Gen S Bhattacharya, VSM (Retd), Secretary & Director General
Published from : 8 Gokhale Road, Kolkata 700 020
Printed from : M/s Florence Offset Process Pvt. Ltd.
6A S N Banerjee Road, Kolkata 700013
Editor : Maj Gen S Bhattacharya, VSM (Retd), Secretary & Director General

President : **Mr Sisir Kumar Banerjee**

Editor : **Maj Gen S Bhattacharya, VSM (Retd)**

Associate Editor: Mr S Chaudhury

Special Contributors: Mr N Sengupta, Mr K Sen,
Dr S Ghosh, Mr T Chakraborty, Ms A Dutta, Mr P
Mukhopadhyay, Mr A Basu, Ms H Roy, Mr S Bagchi

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Telephones: 91-33-2223 8311/14/15/16; Facsimile: 91-33-2223 8345 Web: <http://www.ieindia.org>; E-mail: iei.technical@gmail.com