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NEWSLETTER

The Institution of Engineers (India)

97 YEARS OF RELENTLESS JOURNEY TOWARDS ENGINEERING ADVANCEMENTS FOR NATION BUILDING

Dr. Girish Mundada, FIE, Chairman
Er. Avinash Nighojkar, MIE, Hon. Secretary

PUNE LOCAL CENTRE

Editor -Er. Rajendrakumar V. Saraf, FIE

FROM THE HON. SECRETARY'S DESK

Dear Fellow Engineers,



I have been bestowed with an opportunity to serve as Honorary Secretary of Pune Local Centre. It is the first local centre started in India.

Therefore I need your support, cooperation and involvement to make our centre the best one. Our centre has excellent facilities to promote the technical activities. There are four Hall and 4 Seminar / meeting rooms with ample of parking area to conduct round table conference, Workshops, seminars, lectures and the technical events. I appeal you to come forward and use these facilities.

Our Center can take lead to train the engineers for competitive examinations and higher education. Skill development in all the disciplines can be carried out to join Prime Minister Drive of Make in India.

The young engineers must become the member of The Institution of Engineers & they can further become Professional Engineer (PE) and Charter Engineer.

With Best wishes
Er. Avinash Nighojkar



Water Resource Day was celebrated on 18th April 2017 in Firodiya hall of institution of Engineering. It was celebrated in association with Jal Sampada, Pune, Central Water and Power Research Station, Pune National Water Academy, Pune, Groundwater Surveys & Development Agency, Indian Water Resource Society, Pune, Indian Water Works Association, Pune Centre, Society for Environment Education Research, and Management (SEERAM), Marathi Vidnyan Parishad, Pune. All the dignitaries performed Jal Poojan by offering flowers to Jalkumbha. Dr. Girish Mundada Chairman of IEI PLC welcomed the dignitaries and the guests. In his welcome address he highlighted the proposed activities of PLC. He further said that PLC is always in forefront to tackle the current issues. Er. Rajendrakumar Saraf Convener of program spoke about the theme "Climate Change – Water Resources – Protection, preservation and Mitigation". He said that the reality of Climate Change is being debated amongst the scientific community. However definite change is observed in rainfall pattern during last few decades. Number of rainy days is less than 40 days. Urbanization and Industrialization increased the demand of water. Besides Water resources are getting contaminated. Water availability is likely to reduce to 1401 m³ and 1191 m³ by the years of 2025 and 2050 respectively. There is conflict on the right & priority to be given for irrigation, Urbanization & Industrialization. A

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FROM THE EDITOR'S DESK

I trust you found the April 2017



i s s u e interesting. Thanks for the words of appreciation received on the mail. The examination fever is at its p e a k .

Students have to prove their ability through the system of examination. I remember around forty years ago, the choice after passing out Higher Secondary School Examination was very limited. Known Discipline of Engineering was Civil, Electrical & Mechanical. Today we have a spectrum of discipline in the field of engineering, e.g. Biomedical Engineering, Aerospace Engineering and many others. Civil Engineering is a very broad discipline & most important to build Public Works, Infrastructure & Buildings. It has following Primary area of Specialization

1. Construction Management (combining engineering and management skills to complete construction Projects designed by other engineers and architects).
2. Environmental Engineering is now integrated with all discipline
3. Geotechnical Engineering (analysis of soils and rock in support of engineering projects/applications - building

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challenge ahead is to ensure water and food security at a same time. There is need of protection, presentation and mitigation of water resource to counteract Climate Change. Dr. Suresh Gore of Marathi Vidnyan Parishad introduced Dr. N. K. Sinha Director CWPRS and Er. T. M. Munde Chief Er. Jalsampada. Mr. D. B. Panse Hon Secretary of Indian Water Works Association welcomed on behalf of IWWA & introduced Dr. Vijay Pakhmode Sr. Scientist GSDA and Dr. Sunil Kumar from National Water Academy. Girish Mundada felicitated the dignitaries.

Er. T. M. Munde initiated the panel discussion by making very informative presentation on Water scenario. He has taken a brief review of water availability and the water uses. He said Maharashtra is having basin of Tapi, Mahanadi, Godavari, Krishna, Narmada and Kokan is served by South flowing river. Out of 12 months, rainfalls only for 4 months and out of 4 months, the rain fall is only for 40 days. Out of 960 hrs we get rain only for 96 hours. It means 4 days rainfall satisfies the demand of water for whole year. Maharashtra has highest number of dams i.e. 1845 dams out of 5192 dams in India. He said that, Jalsampada is supplying drinking water to 2/3 of population of Maharashtra. To mitigate Climate change he recommended the equal water distribution, reduction in losses due to leakages & reduction in water consumption. Challenge ahead is stop the pollution of Mula & Mutha Rivers that finally pollute Ujani Dam due to discharge of sewage from Pune & Pimpri Chinchwad. Sewage must be treated and made available for irrigation at downstream.

Dr. N. K. Sinha spoke on water resources and climate change. He said water is vital resource and most important for development and economic growth. He has taken a review of availability of water in India and complexities and challenges ahead. India is having 1545 m³ per person as compared to world average of 7600 m³. India is also having inadequate stored capacity. Maximum Feasible Storage capacity in India is 450 KM³. There is increasing demands of water for various purposes & unplanned development coupled with over-exploitation of ground water. Studies of climate change indicate that number of rainy days is declining through total rainfall remain same it is causing floods and dry spell. The irrigation for food security is must to supply 1.7 billion people in 2050. There is a definite impact of Climate change on water resources and evapo-transpiration. He has discussed analysis framework on crop and food system. He explained the Mission, Objectives and Responsible entity for National Action Plan on Climate change. Objectives of National Water Mission are *Conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within States through integrated water resources development and management*. Water sector reforms objectives are Policy and Governance, Equitable and Efficient Use of Water Resources, Economic Sustainability, Management Information System & Capacity Building. He appealed IEI to take up the activities for Water sector reforms including Capacity building.

Dr. Sunil Kumar Director National Water Academy made presentation on a very unique topic Climate Smart Irrigation in Indian Subcontinent. He has taken a review of Impact of Climate Change on Irrigation. The area under irrigation has increased from 20 mHa in 1950 to 65 mHa in 2015. It will reach to 140 mHa in 2050 to satisfy growing food demand. He said there is definite decrease in rice and sorghum yield due to Climate change. Climate smart irrigation needs Smart irrigation technique, Improved & efficient agriculture methods and Smart management options. He has discussed alternatives of solar, wind power irrigation and run off farming. The advance instruments like Smart Irrigation Controllers can be used. He said that the water shall be considered as commodity in the Market for all the end users like tourism, industry, domestic and irrigation etc. Public Private Partnership is to be introduced for Smart Irrigation.

Dr. Pakhmode briefly presented the activities carried by GSDA. He said the entire Maharashtra State is mapped for ground water availability & quality. This is the major tasks done for ground water exploration. He said the difference between withdraw and recharge of ground water is increasing. Efforts are to be made to protect Ground water resources from over exploitation and contamination.

Er. R. C. Mahulkar Co-convener took the review of all the presentation and open the

panel discussion. The audience has raised their doubts by asking the questions & given their comments and suggestions. The resource person answered queries & appreciated suggestions. It was a very live discussion with definite output. Er. R. V. Saraf instead of proposing vote of thanks, he said that we all will Meet Again to prepare Action Plan on Climate Change – Water Resources – Protection, preservation and Mitigation in detail.

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foundations, earthen structures, underground facilities, dams, tunnels, roads, etc)

4. Structural Engineering (design of all types of stationary structures - buildings, bridges, dams, etc.)

5. Surveying (measure/map the earth's surface in support of engineering design and construction projects and for legal purposes - locating property lines, etc.)

6. Transportation Engineering (design of all types of transportation facilities/systems – streets/highways, airports, railroads, other mass transit, harbors/ports, etc.).

7. Water Resources Engineering (control and use of water, focusing on flood control, irrigation, raw water supply, and hydroelectric power applications)

Each Engineering discipline is getting more specialized sub divisions for further study. Corporate Members can take initiative to guide the young passed out to select the engineering discipline which suits to their like. It can be done in your office, society and amongst your friend circle & obviously your own IEI PLC Platform.

Er. R.V. Saraf
Editor

WOMEN ENGINEERING CELL OF IEI PLC



The latest University Grants Commission statistics shows that Women have more than doubled their number across the country's engineering colleges over the past decade, pushing against one of the most resilient glass ceilings in Indian academics. Women Engineers are making their Foot Print in the Field of Engineering. Recent ISRO's achievement of launching 104 satellites in one go has given us a glimpse of the "Rocket Women" of India. Dr Tessy Thomas Born in 1963, an engineer and the Project Director for Agni-IV missile in Defense Research and Development Organization, Tessy is the first woman engineer to head a missile project in India. She is known as the 'Missile Woman' of India. For two years, Minal Sampath, a systems engineer working on India's mission to Mars, worked flat out in a windowless room, often for 18 hours a day, to be ready for the country's most ambitious space project to date. There are many Lady Engineers who have crossed the horizons. Many success stories have been written by the Lady Engineer.

When talking about Indian women in engineering we sure can't end without appreciating the pioneer. Rajeshwari Chatterjee was the first woman engineer from Karnataka. In 1946, she was given a scholarship by the (then) Govt. of Delhi to study abroad, and studied at the University of Michigan where she obtained her Master's degree from the Department of Electrical Engineering. After obtaining a Ph.D degree, she returned to India and joined the Department of Electrical Communication Engineering at Indian Institute of Science Bangalore as a faculty member where she along with her husband set up a microwave research laboratory where they did pioneering work on Microwave Engineering. Salute to lady Engineers of India.

Pune Local Centre has Women Engineers Cell which is formed to provide Forum for lady engineers to exchange their views, knowledge, ideas & experiences, to inculcate & promote a growing commitment of women engineers towards social objectives of profession, and to provide vast array of technical, professional & supporting services to lady engineering Professionals and students.

Following activities are held under WEC

- Lecture on current topics
- Workshops
- Celebration of 'World Women's Day'
- Celebration of 'World Habitat Day' in first week of October every year.
- Career Guidance Vision Programs after 12th & B.E.

All Lady Engineers are requested to join Women Engineering Cell to make it vibrant. For Details you can contact following Committee members

- | | |
|--------------------------------|------------|
| a. Er. Veena Gore | 7709520407 |
| b. Er. Rujuta Desai | 9823193215 |
| c. Er. Aradhana Deshmukh | 9850154209 |
| d. Dr. Sushma Shekhar Kulkarni | 9970700701 |

World Telecommunication and Information Society Day

17 May 2017



The theme for WTISD-17, "Big Data for Big Impact," focuses on the power of Big Data for development and aims to explore how to turn imperfect, complex, often unstructured data into actionable information in a development context. The insight brought on by advanced analysis can strongly complement the evidence-based nature of decision-making that can be leveraged at national, regional and international levels to drive success towards attaining all 17 of the United Nations' Sustainable Development Goals (SDGs) for 2030.

The theme for WTISD-17 is in line with ITU's work highlighting the technological developments that have facilitated the emergence of Big Data, developing standards related to Big Data and identifying sources and uses of Big Data, including use of Big Data technologies for developing and monitoring improvements in information societies.

Activities undertaken by the ITU Membership will contribute towards building political momentum to embrace Big Data and leverage insights to identify new opportunities to creatively address sustainable development challenges

Please Join the Celebration on 17th May 2017 at 6:00 pm in Firodiya Hall.

**Presentation of e-BAJA and m-BAJA by Sinhgad College of Engineering
at Institution of Engineers, Pune on 27th April 2017**



LEGACY V



ENIGMA

Women Engineers Cell of The Institution of Engineers (India), Pune Local Centre invited Team Kraftwagen from Sinhgad College of Engineering to share their experience under Make in India initiative. “Team Kraftwagen” bagged two prizes, 1st in e-BAJA and 5th in m-BAJA category. BAJA SAE India is an Annual National Event for undergraduate Engineering students to build & present an off road; All-Terrain Single seated Vehicle ATV. This is 10th Edition (Year 2016-2017) of the event organized by Indian chapter of Society of Automotive Engineers (SAE International). 485 teams from 185 institutes participated in 1st phase of Virtual evaluation. Out of them, 185 ATVs driven by IC engines participated in 2nd and final phase of m-BAJA and 35 driven by electric motor participated in e-BAJA.

Er. Veena Gore welcomed the guests and Team Kraftwagen and gave an account of IEI PLC and Women Engineers Cell activities. Er. Shubhangi Chiplonkar introduced the team members & speakers. Er. Vasant Shinde Immediate Past Secretary felicitated the guests.

Mr. Ajinkya Belsare and Mr. Siddhesh Nampurkar presented ATV m-BAJA christened as “Legacy”. They unfolded evolution “Legacy”. The first version Legacy 1.0 participated in year 2012-2013. They highlighted improvements done every year since then and feature of current version - LEGACY V. Efforts taken by teams resulted in achieving 2nd place in Virtual round, 3rd place in Endurance Test and 4th place in Design Evaluation; with overall 5th rank. They explained that the goal set for Version V was to reduce weight in order to achieve maximum power to weight ratio. To achieve the goal they had to work on Ergonomics, Safety, Transmission, Brakes, Suspension and Steering. They used Finite Element Analysis techniques, Computational fluid dynamics, thermal and fatigue analysis. They customized some structural elements based on the analysis. Their performance earned for them a chance to participate at international BAJA in June 2017 at Chicago; they are working hard for preparation of ATV for the same.

Mr. Mohanish Ranade, Mr. Shubham Patel and Mr. Shreyas Dhimate presented “Enigma”, an electrically powered ATV. This was first year of participation. They bagged 1st place in Cost Estimate, Maneuverability and Endurance and got the top slot i.e. overall 1st place. The biggest challenge for them was integration and packaging of 9 kilowatt e-kit given by the organizers. After doing it successfully, they have set a target of reduction of weight by 100 kg by designing and fabricating tailor-made parts for ATV. This was followed by an interesting Question & Answer session. Audience appreciated the work done by students and gave them a big applause. Er. Veena Gore proposed vote of thanks. The program was convened by Er Veena Gore and Er. Shubhangi Chiplonkar.

STUDENTS CHAPTER OF IEI

Inauguration of IEI Student Chapter at Marathwada Mitra Mandal's College of Engineering, Pune

Student Chapter of IEI was inaugurated at Department of Mechanical Engineering, Marathwada Mitra Mandal's College of Engineering, Pune on 22nd March 2017. Mr. Satish Pathak, CEO, Samiep Technology Innovations, Pune was Chief Guest and Prof. K.K. Ghosh, MIE, Past Hon. Secretary and Committee member of IEI Pune local Centre graced the function as Guest of Honor.

Prof. P.K. Katare, Faculty Advisor, declared the names of Executive Committee Members of IEI Student's Chapter (Mechanical) for the Academic year 2016-2017 and discussed about activities scheduled in coming future in the students' chapter. All student members were felicitated by the guests. Dr. K.R. Patil, Head, Mechanical Department, MMCOE welcomed the guests and participants for the program and briefed about the departmental activities and achievements. Prof. K.K. Ghosh declared the IEI Student Chapter opened and briefed about the activities of IEI Pune Local Centre. He also discussed the importance of technical activities to student community and assured all possible help from Pune Local Centre to the chapter for organizing technical activities. He requested all the student members to visit Pune local centre to know more about the IEI.

An expert talk was delivered by Mr. Satish Pathak on the topic "importance of participation of students in growth" of nation. Mr. Satish Pathak shared his experience, knowledge, expertise and enlightened everyone present in the function. A video clip conveying the importance of conservation of water on the occasion of World Water Day was shown. Mr. Swapnil Shelar, Convener of IEI Students' chapter proposed vote of thanks. The program was successfully organized and coordinated by Mechanical Engineering Department of MMCOE with the full support Marathwada Mitra Mandal's Management.

IE(I) Student's Chapter, All India Shri Shivaji Memorial Society's, Institute Of Information Technology Department of Electrical Engineering

This vibrant Student chapter has conducted 7 programs & 8 field visits from January till date. The details are as below.

High Voltage engineering Group Discussion and Presentations
3rd 4th & 10th Jan, & 14th March

Groups of students were formed. Each group was asked to read and discuss theories of breakdown for solid and liquid dielectric. After giving sufficient time for preparation, each group was asked to come and present their theory to the class.

9th Feb

Video on Tesla Coil was shown to know working its working & making at home

Model Making on Project ideas

27th March

Students are asked to make the model of their project ideas. 57 Students take part in this activity. They present project models and information related to the project. This activity is useful for junior students to know the different ideas of the project as well as how to present project work.

Illumination Scheme Design Competition

28th March

Groups consist of 7 students were formed. The students were asked to design an illumination scheme of various laboratories, classrooms and corridor of the department. The illumination scheme was verified with the help of Electrical Havel's Lite- Pack Software. The activity also included suggestions for improvement in the existing illumination scheme design.

Winners were awarded with medals and certificates.

Mrs. S. M. Shaikh, Prof. S.M Chaudhari , Prof. A.D Shiralkar , Prof. S.S Landge , Prof .K.S Gadgil worked as resource persons for the program

Following Industrial visits were arranged.

Manisha Engineers Pvt. Ltd, Pune 20th Jan

Mahadiscom Testing And Quality Assessment Laboratory (Major Stores A&B) Phursungi, 31st Jan

HVDC Phadghe, 13th Feb

Kesari Printing Press, Pune, 22nd Feb

Loco Trip Shed Pune And Khadki Traction Substation 2nd March

Ganesh Khind Substation, Pune 17th March

Sherya Electrical Dhayari , Pune 24th March

Amanora Town Centre, 27th March

Congratulations to the Faculty and Members of Student's Chapter

GLIMPSES OF PROGRAMMES HELD IN MAY 2017



Dr. P. M. Deshapande FIE (Committee Member PLC) attended meeting of Industry Academic Board Members



Inauguration of IEI Student Chapter at Marathwada Mitra Mandal's College of Engineering, Pune - Guest on Dias



Inauguration of IEI Student Chapter at Marathwada Mitra Mandal's College of Engineering, Pune. Students & Faculty members



IE(I) student's chapter, All India Shri Shivaji Memorial Society's, INSTITUTE OF INFORMATION TECHNOLOGY, Department of Electrical Engineering Lecture Meeting



IE(I) student's chapter, All India Shri Shivaji Memorial Society's, INSTITUTE OF INFORMATION TECHNOLOGY, Department of Electrical Engineering Technical Visit



Water Resource Day Celebration Performing Jal Kumh Poojan

GLIMPSES OF PROGRAMMES HELD IN MAY 2017



Water Resource Day Celebration
Dr. M. K. Sinha delivering his presentation on Water Scenario



Presentation of e-BAJA and m-BAJA by Sinhgad College of Engineering at Institution of Engineers, Pune on 27th April 2017 introducing the team

ENGINEERS IN NEWS

Mr. Vishnu Rajaram Bankar,

He obtained Certificate of ME Production Engineering (Manufacturing & Automation) from Savitribai Phule Pune University with First Class & Distinction on December 30th 2016. He did AMIE & presently working in Bajaj Auto Ltd., Chakan, Pune, Maharashtra. He is also a Chartered Engineer. His area of interests includes TPM (Total Productive Maintenance), Assembly, Engineering & Scientific Management. Heartiest Congratulations. Once again it is proved that AMIE is one of the best stepping stone to climb further. (Source letter from Mr. Bankar)

Er. Vijay Ghogare, FIE, Executive Engineer Krishna Khore (Immediate Past Chairman PLC & Chairman MSC) He has successfully initiated Dhangarvadi irrigation project which will bring 27000 ha land under irrigation and will provide drinking water to 28 towns. Hats off to Er. Ghogare for his contribution to social cause. (Source News appeared in Pudhari 4th April)

Dr. P. M. Deshapnde, FIE (Committee Member PLC)

He has attended the meeting of Industry Academic Board Members and Key faculty along with Head of Mechanical Engineering, As well as Dean of VIIT held on 8th April 2017. He presented the need of Student chapter of Institution of Engineers at VIIT. The faculty members and IAB members appreciated and insisted for association with Professional Body Institution of Engineers, Pune local centre for continues development of students. Department head and faculty members have shown the Keen interest to start the student's chapter in Mechanical Engineering.

Words of Appreciation

Prof Himansu Bikas Goswami council member ELDB

Your news letter is excellently presented and edited. A nice news letter for IE(I) members

FORTHCOMING PROGRAMMES

Date & Time & Venue	Program Details	Convenor
11 th May, 2017. Friday 6:30 PM Firodiya Hall	Bhopal Gas Disaster – An Inside Story'. Poisonous gas leakage from Union Carbide's factory in Bhopal has been single largest Industrial accident in the world. For engineers, Safety and accident prevention is of prime importance. Knowing the facts about such an incident can provide insights about safety matters in our fields. Mr. Paranjpye B. Tech Mechanical Engineering from IIT Kanpur and M.Tech in Machine Design from IIT Bombay wil narrate about it from his personal involvement at Union Carbide.	Er Vikas Apte
11 th May 2017 Thursday 6.30 PM Water Treatment Plant, Nigdi,	PCMC Extension centre Follow up of Pawana Cleanup Program. Pawana River Clean Up program has got the momentum. More than 20 NGO along with Local Governing bodies are working together. Memebtrs of Extension centre is providing the Technical back up.	Er Rajeev Bhavsar Er. S. V. Tandale
15 th May Monday at 6:30 PM Firodiya Hall	Nanobiomaterial and applications Dr. Joytika Rajwade Msenior scientist at Agharkar Research institute Pune and researcher in bionanomaterial Development and applications & will explain the status, history and new application of Nanobiomaterial in various fields	Dr. Pramod Deshpande
16 th May 6, 2017 Tuesday at 6:30 PM Firodiya Hall	Popular Lecture series with Marathi Vidnayan Parishad	
17 th May at 6:00 PM Firodiya Hall	World Telecommunication & Information Society Day – WTSD Big Data for Big Impact In association with Institution of Electrical & Electronic Engineers, Pune, Institution of Electronics and Telecommunication Engineers, Pune Institution of Engineering & Technology Pune Dr Sandeep Deshmukh will grace the occasion	Dr. G. S. Mundada
30 th May 2017 Tuesday 6.30 Pm Kale Hall	Workshop on Protection & Preservation of Water Resources . Follow up program for Water Resource Day	Er. R. V. Saraf Er. Mallikarjun Bugade
5 th June 2017	Celebration of World Environment Day Connect with nature' on World Environment Day We will go to the nature.	Er. R. Saraf Dr. A. B. More
2 nd , 9 th , 16 th & 23 rd Tuesday 5.30 PM Seminar Hall 1	Water Resource Group & Energy Forum Meeting The meeting is held on every Tuesday to discuss various issues related to Water & Energy. Please get involve and be a part of Group & Forum	Er. R. V. Saraf Er. S. V. Tandale Er. A. H. Kelkar

Other Events / Activities.

- 1) Vidyut Suraksha Manch – Every Second Saturday – 6.30 pm. at PLC
- 2) Infrastructure interaction – Every Fourth Tuesday 5.30 pm.