



The Institution of Engineers (India)

BAREILLY LOCAL CENTRE

638, Beharipur, Civil Lines, Opp. City Station, Bareilly

"94 Years of Relentless Journey Towards Engineering Advancement for Nation Building"

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CREATION OF GOD - THE ENGINEER

Nov 2014

Pride Engineer From Bareilly PROF. RAJAT MOONA



Prof. Rajat Moona, who is at present DG, C-DAC, have been recently appointed as founder Vice Chancellor and Director of IIIT Naya Raipur, has to forgo the appointment because ministry has asked him to provide his supervision in the development of Supter Computer. As DG, C-DAC, Prof. Moona has led India's efforts in diverse areas like development of supercomputers, the national supercomputing grid, multilingual computing, electronic devices and embedded systems, information and cyber security, health informatics, e-governance solutions and e-learning technologies. Prior to this, he held the prestigious Poonam and Prabhu Goel Chair Professorship at IIT Kanpur, where he taught since 1991 in the Computer Science & Engineering Department. An alumnus of IIT Kanpur and Indian Institute of Sciences, Bangalore, where he was awarded Ph.D. in Fifth Generation Computer Architecture in 1989. His knowledge is so deep that he was awarded Ph.D. without postgraduate in engineering. He holds seven patents, and has authored about 30 research papers and two books. As an Indo-US Science and Technology Fellow, he has been visiting scientist to MIT in the US. His research interests span embedded computing, computer security, VLSI design and operating systems. He has been involved in defining standards for smart cards used in applications like driving licences, vehicle registration systems, Indian National ID, and e-passports. He has also been involved in defining RFID applications in areas such as electronic toll collection.

Though he has his appointment at IIT Kanpur he was responsible to manage the technical development of seamless ASAP product at Mentor Graphics, Hyderabad from May 2002 to July 2004. At IIT, Kanpur, he was the mind for automation of large public examination such as JEE and GATE including the online application and online examination. He was conferred prestigious VASVIK Award for the year 2010 for his contributions to the advancement of information and

communication technologies. His administrative experiences include Chairman, GATE, 2010, Chairman Jam 2010, Member Technical Committee, Election Commission of India.

He received his basic education from Saraswati Shishu Mandir, Prem Nagar, Bareilly and High School and Intermediate from Vishnu Inter College, Bareilly.

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Under his able Supervision India's Supercomputer dream gets a boost

A finance ministry panel mandated to clear big investments recently approved the Rs. 4,500 crore National Supercomputing Mission (NSM) that plans to set up an array of facilities across the country and inter link them.

NSM's machines are likely to be 40 times quicker than the most powerful Indian super computer at present. India's fastest supercomputer at the Pune-based Indian Institute of Tropical Meteorology is ranked 52 in the World.

The project is being jointly steered by the department of science & technology and the department of electronics and information technology.

The mission intends to set up 73 supercomputing facilities on a buy-and-build approach at academic and research institutions across the country and network them into a grid.

Three of them – the first ones to be set up over a 3 year period would be India's first super computer capable of peta-scale computing. There are only 37 supercomputers in the world in the same league.

Peta-scale computing refers to the ability to add at least a quadrillion real numbers – 1000 trillion in one second. "This computing speed is equivalent to about 5 to 6,000 high end laptops working in tandem." Explained Prof Rajat Moona, director general of the Centre for Development of Advanced Computing (CDAC) that gave India her first supercomputer.

"This would boost the high performance computing for India by several fold," added K Vijay Raghavan, secretary of the science and technology department, declining to comment on the proposals.



Our new Secretary & Director General (SDG) **DR. UDAYAGIRI CHANDRASEKHAR**



Dr Udayagiri Chandrasekhar, FIE (F-11240-MC) has started functioning as Secretary & Director General of The Institution of Engineers (India) with effect from afternoon of 4th October, 2014.

Dr. U Chandrasekhar is a scientist and academician with about 30 years of experience in activities related to design, analysis, testing and project management of aero gas turbine projects. He pioneered the use of additive manufacturing in defence R&D and set up the first ever RP laboratory at GTRE, Bangalore.

He was awarded his engineering graduation (NIT, Surathkal) and post-graduation degrees (IIT Chennai) in Mechanical Engineering. He received Ph.D. for his research in Additive Manufacturing carried out at DRDO. He has an advance diploma in human resource management.

He had received Gold Medal from former President of India Dr. A P J Abdul Kalam for his academic achievements. He received commendation medal from the Scientific Advisor to the Defence Minister in recognition of his contributions to rapid manufacturing of complex aeronautical systems.

He served as the Project Director for National Projects of DRDO with focus on metal prototyping and also harsh environment sensors. He led a group of scientists at Moscow during a critical phase of engine testing. He also led a group of academicians to Canada to facilitate bilateral relations in teaching and research.

He conducted several programs under the aegis of National Skill Development Council in association with industry clusters.

He is member of the academic committee of National Board of Accreditation of the Ministry of Human Resource Development.

He serves on the Editorial Board of Journal of The Institution of Engineers (India): Series C and International Rapid Prototyping Journal.

He supports the entrepreneurship development and technology innovations in IT and manufacturing sectors through technology business incubator scheme of the department of science and technology.

Election of Chairman & Honorary Secretary for the Session 2014-2015 & 2015-2016 of The Institution of Engineers (India), U.P. State Centre, LUCKNOW

As per the Regulation 7 & 8 of the Council, the election of Chairman & Honorary Secretary for the IE (I), U.P. State Centre, LUCKNOW for the sessions 2014-16 was conducted from among the exiting Committee Members on Sunday 12th October, 2014.



Chairman
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He has been abroad e.g. USA, Germany, Australia, Africa, Canada, Argentina so many times, to lecture august audience and disseminate the knowledge for global betterness. Though he could have assignments from multinational corporations with much better monetary and others benefits, but he believed to serve the country through his genius in research and guide to establish research centres for the generation to come.

Prof. Rajat, Grandson of Freedom Fighter and Follower of Gandhiji, Late Ram Gopal Moona and Mrs. Yashoda Moona, proud son of Smt. Geeta Moona and Pradeep Kumar Moona of Gopal Art Press, Bara Bazar, Bareilly, was born in Bareilly on March 28th, 1965. He has only one child Prateek Moona, also an Engineer, was awarded B.Tech.–M.Tech. dual Degree in Electrical Engineering from I.I.T. Kanpur in 2014. He is working at Goldman Sachs, Banglore.

This Column is to introduce the Engineers born and educated at Bareilly, but they have made footprints in India and Abroad in knowledge, research, administration, economy etc. If you know any such Engineer, kindly inform the Chief Editor, so that he / she can be introduced to the fellow Engineers.

**Report of 47th Engineers' Day 2014
Technical Session, IE (I), Bareilly Local Centre,
on 15-09-2014 at Training
& Placement Hall of M.J.P.R. University, Bareilly**



Inauguration of Seminar by chief Guest

Theme: “Making Indian Engineering World-class”

The 47th Engineers' Day 2014 was celebrated by Bareilly Local Centre with great enthusiasm, by all Engineers attached to this centre. A Technical seminar on the theme “*Making Indian Engineering World-class*” was organised at Training & Placement Hall of M.J.P.R. University, Bareilly from 11.00 AM to 02.30 PM, followed by LUNCH. Total 70 Engineers plus 80 students participated in the seminar.

The Proceedings of the seminar was conducted by **Mrs. Chhavi Sharma** Assistant Professor Department of ECE, Faculty of Engineering & Technology, M.J.P.Rohilkhand University, Bareilly (UP) in a very nice way.

Professor (Dr.) Mushahid Hussain, Vice Chancellor, M.J.P.R. University, Bareilly who has consented to be the Chief Guest could not attend this Seminar. In his absence, Guest of Honour Dr. A. K. Gupta, Dean Engineering, M.J.P.R. University chaired the Seminar.

The seminar was inaugurated by garlanding the portrait of Sir Mokshgundam Visvesvaraya and lightening of lamp by Chief Guest, Honorary Secretary, Chairman and others VIPs.

The seminar started with the welcome address by **Shri S. C. Sundrani**, Chairman IE (I), Bareilly Local Centre, Shri K. B. Agarwal, I.P. Chairman, IE (I), Bareilly Local Centre paid tribute to Sir Mokshgundam Visvesvaraya by presenting his life sketch.

Following speakers presented their papers in the Seminar alongwith practical examples, which were applauded whole heartedly by the audience:

1. **Shri K. B. Agarwal's** presentation on the topic “*Making Indian Engineering World-class*” : World Class Engineers denote the engineers of tomorrow with a broad range of competencies and skills to synthesize new ideas, and develop new process and technologies to address

contemporary challenges to suit global needs anywhere in India. World Class Engineering is a way of life. An uncompromised commitment to the way we interact with colleagues, business partners and customers around the globe. World Class Engineering is what we do and why it matters. World Class Engineering is what we bring to the table when our customers want to expand their operations.

2. **Ms Akriti Srivastava, Ms Aksita Verma & Ms Shokhi Rastogi**, M.J.P.R. University's presentation on topic '*Making Indian Engineering World-class*' : There are a number of roles an Engineer can play in framing our society. Today there is science in everything and wherever there is science there is engineering. The diversification of engineering into a number of streams proves its versatility. Engineering is tomorrow's future and so are the engineers. This is a great weapon of the youth and in times to come it can work out miracles. It is for this reason that efforts should be made in the enhancement of this field and in making World Class Engineers.
3. **Mr. Nitish Vashisth, Mr. Sarthak Sharma , Mr. Shivam Gaur, Ms. Shruti Gaur, Mr. Shubham Chauhan & Mr. Yashdeep Gupta**, ECE, final year, MIT Moradabad's presentation on topic: '*Making Indian Engineering World-class*' : No doubt Indian engineers are doing better in every field. But a new era of specialization in more than one field is the need of new education system. For example in USA colleges provide option to presume engineering in more than one field which gives an engineer of any branch to get specialized in both hardware as well as software so indirectly they are made perfect in every way.
4. **Mr. Kartik Goyal & Ms. Deergha Agarwal**, M.Tech (Microwave Engineering) SRMSCET, Bareilly's gave presentation on the topic *Microwave A New Era Of Engineering*.
5. **Ms. GEETA**, M.Tech (Microwave Engg.) Final year, SRMSCET, Bareilly introduced the audience on topic the: '*Frequency Selective Surface Layer with Jerusalem Cross*'.



View of Dais



View of Delegates



Presentation of Mementoes/Certificates

6. **Shri Surjeet Singh, Shri Vijay Gupta, Shri Narendra Nath Agarwal and Shri B. S. Bajwa** also shared their views and experiences on the theme.

All the speakers were honoured by presenting the Mementoes by the Chief Guest Dr. A. K. Gupta, Dean Engineering, M.J.P.R. University.

Chief Guest Dr. A. K. Gupta, Dean Engineering, M.J.P.R. University and Mrs. Chhavi Sharma, Faculty of Engineering & Technology, M.J.P.Rohilkhand University, Bareilly were honoured with mementoes by the Chairman and Honorary Secretary.

Er. Anil Kumar Jain, Honorary Secretary of IE (I), Bareilly Local Centre, thanked the Chief Guest, all speakers and all participants, for sparing their valuable time and making the programme a grand success, and invited all the participants for 'LUNCH'.

1. A PRESENTATION ON 'MAKING INDIAN ENGINEERING WORLD-CLASS'

By **Nitish Vashisth, Sarthak Sharma, Shivam Gaur, Shruti Gaur, Shubham Chauhan, Yashdeep Gupta** (Students of ECE, final year, MIT Moradabad)

"It is science alone that can solve the problems of hunger and poverty, of sanitation and illiteracy, of superstition and deadening custom and tradition, of vast resources running to waste, of a rich country inhabited by starving people... The future belongs to science and to those who make friends with science."

-Pt. Jawaharlal Nehru

WHERE DO WE STAND?

- Despite of having around 4000 engineering institutes and approximately 14 lakhs engineering seats all over the country, India is still lagging behind developed countries in terms.
- None of our universities rank even in the top 300 universities of the world.
- There are 140 researches every year per 1,000,000

population in India, in comparison to around 4500 in US.

- China invest around 4 times more and US around 55 times more than India in Science and Technology.

ENGINEERING EDUCATION IN INDIA

- The impulse for creation of centres of technical training came from the British rulers of India. It led to the establishment of industrial schools and other engineering establishments.
- In India, there are several engineering colleges imparting undergraduate and post graduate courses in engineering, applied engineering and sciences. The Indian Institutes of Technology (IITs), the Indian Institutes of Information Technology (IIITs) and the National Institutes of Technology (NITs) are the renowned and reputed institutes in the country.

NEWLY HIRED INDIAN ENGINEERING GRADS LACK SKILLSETS: WORLD BANK

- A recent World Bank paper showed that 64 percent employers were 'somewhat satisfied or worse' with the quality of new engineering graduates in India.

LOW EMPLOYABILITY RATES AMONG ENGINEERING GRADUATES

REASONS:-

- Out-dated Curriculum
- Lack of Practical application
- Lack of Industry Exposure
- Soft Skills
- Wrong Career Choices

HOW TO IMPROVE ENGINEERING EDUCATION so as to build world-class educational institutions in India

- Improve elementary and secondary school education
- Having a wide breadth of education
- Engineering requires experience and exposure
- Part of the engineering curriculum should be adjusted to better prepare students for what they will encounter in their work
- Public relations is important



INDIAN ENGINEERING COMPARED WITH THE REST OF THE WORLD

Making Indian Engineering World Class- Instill Skills from basic school level because

- More than 25% engineers do not even possess the English comprehension skills required to understand engineering school curriculum.

FOCUS ON SKILL BASED EDUCATION:

- * No doubt Indian engineers are doing better in every field. But a new era of specialization in more than one field is the need of new education system. For example in USA colleges provide option to presume engineering in more than one field which gives an engineer of any branch to get specialized in both hardware as well as software so indirectly they are made perfect in every way.
- * In our country, first skill is needed to be imparted to the engineering students. And these skills can only be imparted if we have a sound engineering system in which each and every student is allowed to use a machine, explore it and find a new way to modernize it.
- * The higher bodies which set up the content to be studied by the engineering student should add new contents every year because to be a quality engineer one must know what is going on all around the globe.

WHAT NEEDS TO BE DONE???

Have 'Latest Trends in Technology' module in every subject

Let us say that for each subject the syllabus is divided into 7 or 10 modules; in this case the last module, must always be the 'Latest Trends in Technology' with no further specifications. Technology is changing every day. For example, today we need to teach Bluetooth 4.0, NFC and 5G in Wireless Networks, where we teach Bluetooth 2.0, WiFi and 3G. Institute must include 6 months Internship program as a part of Syllabus

Most institutes have a final year or final semester project. However, we all know, what kind of projects are done by students. Institutes should have the option that student either does 6 months Internship or the project. This option can be given to the student in the final semester, which is done by most institutes which have 6 months Internship as a part of their curriculum.

Inter-disciplinary projects from 1st year:

Most Institutes have option of only final year or final semester projects. Instead, there should be one project every semester. If it can't be from 1 year, it can be very well started from 2nd or at least 3rd year. Usually these projects are department specific, while no project is an engineering branch specific product.

Tap the Internal Experts:

4th year students should do teaching 1st to 3rd year

students. 3rd year students should do teaching 1st to 2nd year students. This is because the understanding of the students overlap. They are able to make others understand faster and in a simpler way.

The engineers, who are the harbinger of development of any country, always strive for enrichment of their knowledge and skill to upgrade the quality of life and their performance.

These small steps can really help in making Indian engineering world class

Swachh Bharat Abhiyan, by Engineers on 26-10-2014 in Green Park, Bareilly



Following the call of Prime Minister Shri Narendra Modi, Engineers attached to Bareilly Local Centre, carried out clean your city programme at Green Park, Bareilly on 26th October, 2014. Shri Saheb Singh Verma taking the lead role, arranged the implements for cleaning. Residents of the Green Park also joined with Mr. S.C. Sundrani, Mr. Anil Kumar Jain, Mr. Anil Kumar Jindal, Mr. A. K. Gupta, Mr. N. N. Agarwal, Mr. Deeresh Kumar Khare, Dr. Pankaj Sharma, Mr. Charam Jeet Singh Sobti, V. K. Aginhotri, Mr. Sameer Chahel etc.





Report on 4th Annual General Meeting (AGM), IE (I), Bareilly Local Centre, on 19-10-2014 at the Office Building



Fourth Annual General Meeting of the IE (I), Bareilly Local Centre was held on 19 October 2014 (Sunday) at the office premises of 638, Beharipur Civil Lines, Opp. City Railway Station, Bareilly – 243001 at 11:00AM.

Following Corporate Members attended the A.G.M.:

1. Shri S. C. Sundrani, FIE - Chairman
2. Shri A. K. Jain, MIE - Honorary Secretary
3. Shri K. B. Agarwal, FIE - I.P. Chairman
4. Shri A. K. Jindal, FIE, - Committee Member
5. Shri S. C. Agarwal, FIE - Committee Member
6. Shri Narendra Kumar, FIE - Committee Member
7. Shri Naresh Chandra Atri, FIE - Committee Member
8. Shri S. K. Sharma, MIE - Committee Member
9. Dr. Pankaj Sharma, MIE - Committee Member
10. Shri Dheeresh Kr. Khare, AMIE - Committee Member
11. Shri Vedvir Prasad, MIE - Corporate Member
12. Shri Ashok Kumar Mittal, AMIE - Corporate Member
13. Shri Dinesh Kumar Sharma, FIE - Corporate Member
14. Shri Devendra Kumar, MIE - Corporate Member
15. Shri R. K. Bansal, MIE - Corporate Member
16. Shri H C Gupta, FIE - Corporate Member
17. Maj Sant Kumar, FIE - Corporate Member
18. Shri N N Agarwal, FIE - Corporate Member



Opening of the 4th Annual General Meeting:

The Meeting was presided over by Er. S C Sundrani, FIE, Chairman. The following points were discussed and decided:

1. **Confirmation of Minutes of last Annual General Meeting held on 27-10-2013:**
The Minutes of previous Annual General Meeting held on 27th October 2013 were readout by the Honorary Secretary Er. Anil Kumar Jain, MIE, which were confirmed unanimously.
2. **Adoption of Annual Report of 2013-2014:**
Annual report for the year 2013-2014 was readout and presented by Honorary Secretary Er. Anil Kumar Jain, MIE. The same was adopted unanimously.
3. **Adoption of Audited Accounts of 2013-2014:**
Audited account for the year 2013-2014 as readout and presented by Honorary Secretary Er. Anil Kumar Jain, MIE, was adopted unanimously.
4. **Appointment of Auditor for 2014-2015:**
M/s Agarwal Ravindra & Co. were appointed as auditor for the year 2013-14 at the enhanced remuneration Rs. 4000/- and taxes.
5. **Vote of thanks:**
Er. Anil Kumar Jain, MIE, Honorary Secretary IE (I), Bareilly Local Centre, proposed the vote of thanks for Chairman and members. The 4th Annual General Meeting was ended with 'LUNCH'

Release of Souvenir 2014 on 47th Engineers' Day



SRISTHI - Souvenir Published on the occasion of Engineers' Day 2014 was released by the Chief Guest Brig J. Hota and other dignitaries Mr. P.K. Gupta, Mr. Salek Chand, Mr. K. B. Agarwal, Mr. S.C. Sundrani, Mr. A K. Jain and Mr. Narendra Kumar in the crowded hall of IMA in the evening of Engineers' Day with great pomp and show.

Those Engineers who could not receive the Souvenir so far can collect it from the office or from Shri Harpal Katiyar (mobile - 96349-53691).



Felicitation of Senior Engineers above 70 years

Every year Our Local Centre Felicitate Senior Engineers, who were present in the main function of The Engineers' Day. This year the audience in the hall was honoured when Senior Engineers (above 70 years) were escorted to the dais and the chief guest of the evening Brig J. Hota, Chief Signal Officer, U.B. Area, Cantt, Bareilly, presented the bouquet and decorated them with shawls on their shoulders



Senior Engineers above 70 years on the Dais with Chief Guest and Office Bearers of Bareilly Local Centre.



Er. Devendra Nath, born on March 4, 1939 at Multan (Now in West Punjab, Pakistan). He passed his matric in 1953 from Bareilly. He was awarded AMIE in 1970. He joined UPSEB in 1958, and retired from UPSEB, Bareilly in 1997. Playing table tennis is one of his hobby. He is leading a peaceful retired life. His son is self employed in software development.



Er. Jagroshan Prasad, born on February 2, 1942 at Meerut. He passed his matric in 1956 from Meerut. Roorkee University awarded him, his first Engineering degree in Civil Engineering in 1964. In 1965 he joined UPPWD at Lucknow. He was retired from Kashipur in 2000. He is leading his retired life peacefully. His son is self employed.



Er. Narendra Nath Agarwal, FIE, born on July 3, 1940 at Bareilly. He passed his matric in 1954 from Bareilly. In 1962, he was awarded his Engineering degree in Telecommunication from Roorkee University. Before that he did Civil Engineering diploma. He started his earning life in 1962 from Delhi Telephones, changed to AIR in 1963 and retired in 2000 from Lucknow. He is a widower, but a good listener, leading a peaceful retired life. His both sons are doctors married to doctors.



Er. P. K. Jain, born on October 15, 1939 at Meerut. He passed his matric from Meerut in 1955. He was awarded his first Engineering degree in Civil Engineering in 1963 from erstwhile Roorkee University. He joined UPPWD in Lucknow in 1964 and retired from Lucknow in 1997 as SE World Bank. He is leading peaceful retired life. His son, Civil Engineer from HBTI, Kanpur is self employed in Delhi.



Er. K. M. Agarwal born on June 29, 1940 at Shahajhanpur. He passed his matric in 1954 from Pilibhit. He is a Civil Engineering graduate from MNR Engineering College, Allahabad from 1958 batch. He started his job in 1958 from Local Body, Mathura and retired in 1998 from PWD, Bareilly. He is leading a retired peaceful life. His son is Civil Engineer in RES, Bareilly.



Promotion

Mr. Salek Chand, Chief Engineer, PWD, Bareilly who has recently joined at Bareilly has been upgraded to Level 1, keeping his posting at Bareilly.

Appeal from Chairman Er. S. C. Sundrani

Mr. Sundrani, has appealed to all the members specially executive members of the Bareilly Local Centre to arrange at least one technical seminar / talk on the subject of their choice in their division. The platform of Local Centre is to propagate the knowledge among other fellow engineers. This is the basic requirement. All facilities are available in the Local Centre office, kindly contact to the Honorary Secretary Er. A. K. Jain – 93593-40968 / Shri Harpal Katiyar on 96349-53691 for the date and time.

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