



The Indian Engineer

"Take up one idea. Make that one idea your life - think of it, dream of it, and live on that idea. Let the brain, muscles, nerves, every part of your body, be full of that idea alone. This is the way to success - Swami Vivekananda.

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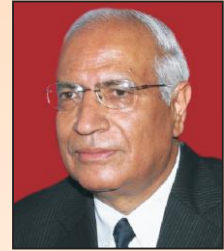
The Institute of Marine Engineers (India)

P. N. Shali

Director

From the Chairman's Desk

As was stated in my message in the June, 2011 issue of the Indian Engineer, the Board of Governors of ECI at its 28th meeting held on June 27, 2011 at New Delhi had taken a serious note of the engineering profession receiving a severe beating in the aftermath of the CWG 2010 held last year in September at New Delhi. ECI was asked by the Board to put the issue in its proper perspective through organizing a press conference. Accordingly, ECI organized a Press Conference on August 11, 2011 at New Delhi, which was very well attended by the media and covered by the Press. The Press Note issued by ECI and the clippings from the newspapers were sent to all the Members Associations for information. Broadly, two issues were raised in the Press Conference namely, (a) the negative image of engineers being created following the Commonwealth Games which ignored the positive contributions and which were causing wide-spread dismay and de-motivation in the engineering fraternity, and (b) the urgent need for the setting up of the statutory regulatory body for the engineering profession, proposed in the Engineers Bill which can help in ensuring accountability of engineers and countering the negative image. Prior to the Press Conference, a letter was also sent to the Hon'ble Prime Minister in this regard. ECI will continue the follow up so that the competent authorities look into these issues and the Engineers Bill is processed further as urgently as possible.



In order to assess the employment potential of fresh graduate engineers, it was proposed to initiate a National Professional Standards for Engineers covering all branches and assess these via a National Proficiency Evaluation Test (NPET). Construction Industry Development Council - a member associations of ECI- has already developed such a Test and it has conducted it for Civil and Mechanical Engineers for the construction industry. ECI proposed to extend it to all engineering disciplines with the help and involvement of our Member Associations. This was discussed in February, 2011 at a meeting of the Member Associations and later at the BOG meeting held in June, 2011 which approved it. After this, a proposal has been sent for the consideration and approval of the Member Associations of ECI. I would urge all our Member Associations to favorably consider it. All those Member Associations who approve it can implement NPET with the help of ECI and CIDC.

Continuing with initiative on the reform of engineering education for better employability of engineers, ECI organized the 6th National Convention with the theme Industry-Specific Engineering Education for Better Employability of Engineers on September 11, 2011 at the Jadavpur University Campus, Kolkata. The Convention was attended by about 200 delegates both from the industry and academia as well as some of the engineering students. The deliberations of the convention were quite objective and the proceedings along with the recommendations are being compiled and will be circulated to all concerned including to the Member Associations of ECI in due course.


(Uddesh Kohli)

9th National Conference

Engineering Council of India is organizing the 9th national conference on November 28, 2011 at the SCOPE Complex, Lodhi Road, New Delhi-110003. The theme of the conference is Challenges of the 12th Five-Year Plan-Role of Engineers and Technologists. For details send a mail to eci@ecindia.org, director@ecindia.org or visit www.ecindia.org

A3C'11-ACCE(I) Awards Convention & Consultants Colloquium - 2011

11th and 12th November, 2011 at 'Sai Sabhagruh', Maharashtra Rashtrabhasha Sabha, North Ambazari Road, Behind Wokhardt Hospital, Shankar Nagar, Nagpur, India. For details send a mail to: accehq@vsnl.com, admin@accehq.net or visit www.accehq.net

17th "Asia Construct"

Construction Industry Development Council (CIDC) is organizing an international conference and expo during 13th-15th December, 2011 at New Delhi. The Theme of the Conference is "Asian Economic Overview 2011 and Outlook 2012". For details, visit www.cidc.in or email: cidc@cidc.in

Foot Over Bridge at JLN Stadium, New Delhi Collapsed Due to Macalloy Suspension Bars

The Chairman of the Investigation Committee Mr. H S Dogra, Director General of CPWD (Retired), reportedly, has stated that a detailed investigation had revealed that the reason for the collapse of the Foot Over Bridge built at JLN Stadium, New Delhi during CWG 2010 was attributable to the faulty connection of the Macalloy suspension bars to the deck; while as the design and method of construction of the bridge was found to be in order. The design documents were handed over to Macalloy and they were asked to scrutinize the same themselves or by other specialized agency. After two months they came back and said that they could not find any flaw in the design.

Two New Members of Engineering Council of India

Indian Society for Technical Education and the Automobile Society of India have joined Engineering Council India (ECI) as its new members.

Word Power

Beauty Parlor : A place where women curl up and dye.

Cannibal : Someone who is fed up with people.

Chickens : The only animals you eat before they are born and after they are dead.

Dust : Mud with the juice squeezed out.

From Editor's Desk



A good engineering education system might set its mission for achieving certain levels of perfection in its education and training programmes


Today, the industrial and services sectors world over give preference to engaging less and less number of people in general and engineers in particular. It implies that multi disciplinary and multiskilled engineers can only meet this preference. As it is true for the industrial sector, so is it true for the services sector. It suggests that we need to look at the curricular framework of engineering education system and redefine its mission and goal.

The challenge to the engineering education system world over is to make available multidisciplinary and multiskilled engineers. In other words, it means that engineers should have knowledge of not only one particular engineering discipline but also of the other engineering disciplines. They should also have knowledge of subjects such as management, economics, law, statistics, finance and accounts, contracts, dispute resolution, apart from skills of written and spoken communication, writing of feasibility studies, project formulation, project management, managing technology, presentation of reports, delivery of technical lectures and of knowing and understanding people, policies and politics, etc. Leadership qualities and business management skills in an engineer will be a clicking qualification in the matter of finding a quick employment and career growth thereafter.

The mission of the engineering education system, therefore, should be to cultivate in the students the required levels of maturity in the areas of technical proficiency, and multiskills. The system should be such as would enable the students not only to fit properly in the industries but also to establish industries. The emphasis of the engineering education system should be on preparing a wholesome personality with engineering as core knowledge. Equally important is to train the faculty in the field for overcoming their rigidity about the curricula.

It is being widely accepted now that engineers with a general engineering degree have broad knowledge which makes them suitable candidates for most of the careers. The engineering education system world over is, therefore, receiving close attention and its mission and goals are being redefined. Some US universities have started bringing in goals such as quality in the core multidisciplinary engineering education, adequate knowledge of some social sciences, customer satisfaction, service mentality, etc. into the engineering curriculum. Experiments are also going on world over in reforming the engineering education system and bringing in new models. Various universities in the US also offer now seamless programmes in engineering, which confer B. S. Degrees in Engineering, without assigning a branch. The University of Illinois in US has a department of general engineering. They have now developed a department of industrial and enterprise systems engineering, which imparts education in combined systems and business education, which is one step ahead of the seamless engineering education. As part of the educational curriculum, these programmes also help students to participate in internship programmes, which produce better employment opportunities.

Here in India some IITs have also introduced seamless engineering education in a limited and judicious way, appropriate to the requirements of the country. However, a lot of modifications in the system, and refinement of strategies are still possible.


(P.N. Shali)

Eminent Indian Engineer : Dr Rajendra K. Pachauri



Dr Rajendra K Pachauri, an internationally renowned environment scientist, researcher, global climate change exponent, industrial engineer and above all a shining star of India, assumed his current responsibilities as the Chief Executive of TERI (The Energy and Resources Institute) in 1982, first as Director and since April 2001, as Director-General. TERI does original research and provides knowledge in the areas of energy, environment, forestry, biotechnology, and the conservation of natural resources to governments, institutions, and corporate organizations worldwide. Since August 1998 he has also been Chancellor, TERI University. In April 2002, Dr Pachauri was elected the Chairman of the Intergovernmental Panel on Climate Change, established by the World Meteorological Organization and the United Nations Environment Programme in 1988 (Re-elected in September 2008). IPCC along with former Vice President Al Gore has been awarded the "Nobel Peace Prize" for the year 2007. He has been appointed as Director, Yale Climate and Energy Institute from July 2009. He has been active in several international forums dealing with the subject of climate change and its policy dimensions.

Academic and Research Positions Held

Dr Pachauri has also been associated with academic and research institutes. He has been a Visiting Professor, Resource Economics, at the West Virginia University (August 1981-August 1982); Senior Visiting Fellow, Resource Systems Institute, East-West Center, USA (May-June 1982); Member of the Board of Governors, Shriram Scientific and Industrial Research Foundation (September 1987-1990) and Visiting Research Fellow, the World Bank, Washington, DC (June-September 1990). Recognizing his vast knowledge and experience in the energy-environment field, the United Nations Development Programme appointed him as part-time adviser to its Administrator in the fields of energy and sustainable management of natural resources (1994-99). Dr Pachauri taught at the School of Forestry and Environmental Studies, Yale University, USA, as a McCluskey Fellow during 6 September-8 December 2000.

Membership of International and National Committees

Dr Pachauri's wide-ranging expertise has resulted in his membership of various international and national committees and boards. At the international level, these include his positions as Member, Advisory Board for the Clinton Climate Initiative, USA, January 2010 onwards; Member of a High Panel on Peace and Dialogue among Cultures, UNESCO, France, December 2009 onwards; Adviser, International Advisory Board, Toyota Motor Corporation, Japan, April 2006 - March 31st, 2009; Member, Board of the International Solar Energy Society (1991-97); Member, World Resources Institute Council (1992); President and Chairman, International Association for Energy Economics, Washington, D C (1988, 1989-90, respectively); and President, Asian Energy Institute (1992 onwards). He was a member of the board of the Global Humanitarian Forum (founded by the former United Nations Secretary General Kofi Annan) from 2007 to 2010. At the national level, the committees of the Government of India to which he has contributed include the Member, Prime Minister's Advisory Council on Climate Change, June 2007 onwards (reconstituted in June 2008); Economic Advisory Council to the Prime Minister of India (July 2001 to May 2004); Advisory Board on Energy, reporting directly to the Prime Minister (1983-88); National Environmental Council, under the Chairmanship of the Prime Minister (November 1993 to April 1999); and Oil Industry Restructuring Group, 'R' Group, Ministry of Petroleum and Natural Gas (1994).

Corporate Positions Held

Dr Pachauri's was on the Board of Directors of the Oil and Natural Gas Corporation Ltd (June 2006 to June 2009), the Board of Directors of the NTPC Limited (January 2006), the Board of Directors of the

Indian Oil Corporation Ltd (January 1999 to September 2003), the Board of Directors of GAIL (India) Ltd. (April 2003 to October 2004) and on the Board of Directors of the National Thermal Power Corporation Ltd (August 2002 to August 2005).

Institutional Positions Held

Dr Pachauri's has also served on the Executive Committee and then the Board of Trustees of the India International Centre, New Delhi (1985 onwards); as the Vice President of the Bangalore International Centre; on the Governing Council (October 1987 onwards) and as the President (September 2004 - September 2006) of the India Habitat Centre, New Delhi; and on the Court of Governors, Administrative Staff College of India (1979-81). In September 1999, he was appointed Chairman of the Darjeeling Himalayan Railway Heritage Foundation. Earlier, in April 1999, he was appointed Member of the Board of Directors of the Institute for Global Environmental Strategies, Environment Agency, Government of Japan, in which position he still continues.

Awards and Recognitions

He was conferred with the "Padma Vibhushan", second highest civilian award, for his services in the field of science and engineering in January 2008 by the President of India. To acknowledge his immense contributions to the field of environment, he was awarded the Padma Bhushan by the President of India in January 2001. He was also bestowed the "Officier De La Légion D'Honneur" by the Government of France in 2006. He has also been conferred with 'Commander of the Order of Leopold II' by the King of Belgium in July 2009; the 'Commander of the Order of the White Rose of Finland' by the Prime Minister of Finland in February 2010 and 'The Order of the Rising Sun, Gold and Silver Star' by His Majesty Akihito, Emperor of Japan in April 2010.

Publications

Dr Pachauri's has also authored 26 books and several papers and articles.

Dr Rajendra K Pachauri was born in Nainital, India, on 20 August 1940. He worked very hard in his early phase of life and by virtue of this he reached to the position of eminence internationally which continues to inspire youngsters-both in India and abroad. Commencing his career with the Diesel Locomotive Works, Varanasi, where he held several managerial positions, Dr Pachauri joined the North Carolina State University in Raleigh, USA, where he obtained an MS in industrial engineering in 1972, a Ph.D. in industrial engineering and a Ph.D. in economics. He also served as Assistant Professor (August 1974-May 1975) and Visiting Faculty Member (Summer 1976 and 1977) in the Department of Economics and Business. On his return to India, he joined the Administrative Staff College of India, Hyderabad, as Member Senior Faculty (June 1975-June 1979) and went on to become Director, Consulting and Applied Research Division (July 1979-March 1981).

Awards and Facilitations

Prof K.S., Jagadish, Professor Emeritus, Indian Institute of Science, Dr. N. Raghavendra, Technical Advisor, CTPL, Bangalore, Dr. Aswath, M.U, former Secretary General, ACCE(I) and Shri R. Srinivasan, Consultant and Entrepreneur, Bangalore were facilitated by the ACCE(I) at the Engineers Day celebrations on September 16, 2011 at Bangalore. Dr Devinder Kumar Banwet, Indian Institute of Technology Delhi received the Scroll of Honour from the Indian Institution of Engineers (I), Delhi State Centre for his significant contribution to for the advancement and application of practice of engineering in India. His services are recognized for the year 2011.

Our Congratulations

Demand for engineering degrees shrinks, engineering colleges seek buyers—Swati Gaeg, Koikata

Trusts owning engineering colleges in Andhra Pradesh, Karaataka, Kerala and Tamil Nadu are putting these institutions up for sale due to a shrinking demand for the degree. At least half a dozen colleges are on the lookout for buyers in Andhra Pradesh, which alone produces the largest number of engineers in the country. These four states have more than 1,500 engineering colleges, with 500,000 seats. Andhra alone has 700 colleges. Since 2005 there has been a spurt in engineering colleges in Andhra and Karnataka. But due to shrinking demand, many trusts are now looking for buyers," said Sandeep Aneja, Managing Director of Kaizen Private Equity, a firm focused on the education sector. "The problem with many of these institutions is that they have no brand name; they manage to meet the most basic requirements set forth by the All India Council for Technical Education. They have the licences, but bare infrastructure development and zero brand name. They produce engineers who do not find jobs," Aneja said. The Kollam-based Travan-core Engineering College, for example, has been on sale for six months, according to a broker, who is in charge of the sale. Established in 2002, the college spreads over 25 acres and has 1,350 seats. Its promoters denied they had put the college on sale, but sources said they wanted to set up a school, which they believed might be a more profitable proposition. A sale of an engineering college would entail the transfer of the AICTE licence, "Perhaps, there should be no problem in the transfer of Licence because engineering colleges on sale will come under the Property Act ; and thus these colleges would fall in the category of assets being transferred by one owner to another owner.

Several private equity (PE) players, along with trusts and non-educational buyers, are in the fray to buy engineering colleges that the Trusts want to dispose off

While many engineering college trusts in Andhra and Karnataka have put up assets, including land and licence, on sale, most of them are non-profit institutions. Under the existing law, assets from these trusts cannot be used for profit making," said Jacob Kurian, partner, New Silk Route. Kurian's New Silk Route is a PE fund with assets worth \$1,4 billion under management. "The advantage for the buyer would be to re-brand existing infrastructure and work through present

licences," Kurian said. The buyer will gain land which is increasingly becoming difficult to acquire. Also, there is the lure of existing seat allocations that bigger private universities believe can be filled with their own brand name. A player involved in a deal said there was no problem in PB players getting into the space. "I do not see the not-for-profit issue a hurdle because we can put up the money and our experts in charge of operations, and exit at a later date, As long as we do not take money out of the college itself, there should be no problem," the investor said.

75 per cent of engineers found unemployable in 2010

The National Association of Software and Services Companies from a survey done by them In 2010 found 75 per cent of engineers unemployable. The problem of vacant seats came to the limelight earlier this year, when fears surfaced that over 150,000 seats might remain vacant in Andhra Pradesh and Karnataka alone.

Technology, Media and Telecommunications Predictions for 2011, Deloitte-Consulting Firm project that the Indian IT industry will add over 2.25 lakh employees in 2011

The Indian IT industry will add over 2.25 lakh employees in 2011 and will clock revenues of USD 71.7 billion by the end of the year. Revenues from the information technology and business process outsourcing industry will reach USD 71.7 billion for 2011, that means 5.8 per cent of the country's GDP. Of the total USD 71.7 billion, up to USD 60 billion will come from the core software and services vertical, while exports from this segment will grow up to 17 per cent to USD 47 billion. The total number of employees working in the IT/ITeS (IT enabled services) sector will grow to 22.3 lakh this year, which translates into the addition of 2.25 lakh personnel. An additional 80 lakh people will get employment indirectly from the sector. The Deloitte prediction follows a spate of announcements by IT majors like Infosys and TCS, among others, of stepping up recruitment in the current season as the global economy is going into a recovery mode. Deloitte expects a higher growth in revenues from European and Asian markets compared to the traditional North American market in 2011. It also added that the under-penetrated SME (small and medium enterprises) space will emerge as a "significant opportunity" in 2011.

Let the World Know: What is "Corporate Social Responsibility"?

It is said that the success is not a Long jump nor a High jump, its a Marathon of Steps" A news reporter asked Ratan Tata as to why Tatas are not making as much money as Reliance. He was said to have replied, "We are industrialists. They are businessmen. After 26/11, the Tata treated all categories of employees including those who had completed even 1 day as casuals on duty during the time the Taj hotel was closed.



Relief and assistance was provided to all those who were injured and killed. It was also extended to all those who died at the railway station, surroundings including the "Pav-Bha ji" vendor and the pan shop owners. During the time the hotel was closed, the salaries were sent by money order. A psychiatric cell was established in collaboration with Tata Institute of Social Sciences to counsel those who needed such help. The thoughts and anxieties going on people's mind were constantly tracked and where needed psychological help provided. 7. Employee outreach centers were opened where all help, food, water, sanitation, first aid and counseling was provided. 1600 employees were covered by this facility. Every employee was assigned to one mentor and it was that person's responsibility to act as a "single window" clearance for any help that the person required. Ratan Tata personally visited the families of all the 80 employees who in some manner - either through injury or getting killed - were affected. The dependents of the employees were flown from outside Mumbai to Mumbai and taken care off in terms of ensuring mental assurance and

peace. They were all accommodated in Hotel President for 3 weeks. Ratan Tata himself asked the families and dependents - as to what they wanted him to do. In a record time of 20 days, a new trust was created by the Tatas for the purpose of relief of employees. What is unique is that even the other people, the railway employees, the police staff, the pedestrians who had nothing to do with Tatas were covered by compensation. Each one of them was provided subsistence allowance of Rs. 10K per month for all these people for 6 months. A 4 year old grand daughter of a vendor got 4 bullets in her and only one was removed in the Government hospital. She was taken to Bombay hospital and several lacs were spent by the Tatas on her to fully recover her. New hand carts were provided to several vendors who lost their carts. Tata will take responsibility of life education of 46 children of the victims of the terror. This was the most trying period in the life of the organization. Senior managers including Ratan Tata were visiting funeral to funeral over the 3 days that were most horrible. The settlement for every deceased member ranged from Rs. 36 to 85 lacs [One lakh rupees translates to approx 2200 US \$] in addition to the following benefits: a. full last salary for life for the family and dependents; complete responsibility of education of children and dependents - anywhere in the world. Full medical facility for the whole family and dependents for rest of their life. All loans and advances were waived off - irrespective of the amount. There are many more things that were done. Space is limited in these columns and all cannot be covered (contributed by Prof Krishna Kumar Pande +9837016153 /9411107268).

News from the Member Associations

Association of Consulting Civil Engineers (India), ACCE(I)

ACCE(I) celebrated Engineer's day on 16th September 2011 at Bangalore with pomp and gaiety. The event was held in association with Madras Cements. The function was well attended by over three hundred member engineers. A placement orientation programme was organized on 17th of June 2011 at Global Academy of Technology, Bangalore at which students of the Global Academy of Technology listened to the eminent engineers amongst our fraternity like, Mr. Nirmal Prasad, Mr. Vasudev Murthy, Dr. Aswath M U and Shri A N Prakash who guided the students on what to expect on being a civil engineer, their roles and responsibilities towards the organization they would work for and the society. A technical site visit to Ultratech Cement Plant at Tadapatri, sponsored by Grasim Industries, on the 19th and 20th of August 2011, was an event eagerly looked forward to by the members of ACCE(I). A team of twenty-four ACCE(I) members had first-hand experience and a visual treat of the most advanced and modernized cement manufacturing plant during the two-days visit. ACCE(I), Bangalore Chapter conducted its first Study Circle meet for the year 2011-2012 under the able leadership of Mr. Shrikanth Channal on the 7th July 2011. The topic of discussion was tertiary storm water drains, their design, adequacy, construction, upkeep, use and misuse of the same. The event was attended by more than twenty-five members of the association. Efforts are underway to document the proceedings and make a presentation to the Government agencies and NGO's concerned with development activities in the state on our observations for deliberations, assimilation and implementation.

Computer Society of India (CSI)

A National Conference was organized on 27th August, 2011 on Emerging Trends in Computing RACKSPACE 1.0 at the BIT Institute of Technology, Hindupur, Anantapur (Dist), A.P. in association with the CSI, the Department of CSE with the aim to bringing out the research potential in the field of computer science and information technology among the students and the faculty members, sharing the emerging technologies in the IT fields with them with the objective of enhancing their technical skills in the relevant field. It was very well attended both from the academia and the industry; and many thought provoking presentations were made at the conference.

Construction Industry Development Council (CIDC)

As part of CIDC's endeavour to intensify training initiatives, an executive development program was organized on "Quality Control and Quality Assurance in Concrete Construction" during 26th & 27th, September 2011 at Bangalore. It was very well attended. CIDC is working on the 17th Asia Construct conference and exhibition to be held during December 13-15 at New Delhi. It is a mega international event in which many countries will participate.

Consulting Engineers Association of India (CEAI)

CEAI organized In-house FIDIC training seminars for the Asian Development Bank during July 18 - 20, 2011 at New Delhi, during July 21 - 23, 2011 at Bangalore, during July 25 - 27, 2011 at Guwahati, during July 29 - 30, 2011 & 1st August 2011 at Bhopal, and during August 4 - 5, 2011 at New Delhi. These seminars were very well attended.

Indian Association of Structural Engineers (IAStructE)

IAStructE organized a technical lecture on Thursday, 15th September 2011 at New Delhi. The lecture was delivered by Prof. Mahesh Tandon, Managing Director; Tandon Consultants Pvt Ltd. It was very well attended. Prof Mahesh Tandon is an international expert in the field of Structural Engineering. Many of the structures designed by Prof Tandon and his firm Tandon Consul-tants Pvt. Ltd have been widely acclaimed and have received recognition in India as well as internationally. IAStructE is organizing a two day national seminar in New Delhi during 18-19 November 2011 on "Metro Rail Projects" (Indian Scenario). For details send a mail to : astructe@gmail.com.

Indian Concrete Institute (ICI)

A technical evening lecture was organized jointly by the ICI, Karnataka, Bangalore Centre and the ACCE(I), Bangalore Chapter on 11th August 2011 at Bangalore. It was delivered by Shri V R Kowshika on "Sustainable Concretes with Metakaolin and High Performance Admixtures". He spoke about the use of secondary cementitious materials (SCM) like Fly Ash and Slag (GGBS) in concrete making which is has become very common during the recent past on account of sustainability concerns. Metakaolin is another new cementitious material known for its very good cementitious properties and advantages. The technical lecture brought a lot of insight into the sustainable advantages of using this mineral admixture for concrete making in future. This was an ideal opportunity for the practitioners and professionals to be exposed to the use of newer cementitious materials. ICI also organized one-day conference on 'Repair, Restoration and Rehabilitation of Concrete Structures' was organized by the Indian Concrete Institute-TNCC in Association with Building Technology Centre, Madras on September 20, 2011 at GRT Convention Centre, Chennai. A large number of engineers and technologists and faculty participated in the conference.

Indian Geotechnical Society (IGS)

IGS encourages participation from everyone associated with geotechnical engineering by providing various categories of membership, which is open to individuals, institutions and organizations whose activities or interests are akin with the aims of the Society. An individual may become a Member or a Fellow. Institution Membership is open to Institutions and Associate Membership is open to business concerns. The Society also recognizes members who have made significant contribution by conferring "Honorary Fellowship" on them. So far 12 members have been honored with Honorary Fellowship. The IGS has presently over 3000 members on its rolls. IGS members have made significant contribution to the development of India by being actively involved and providing the requisite expertise for the solution of challenging problems related to earth and rock fill dams, canals, buildings, roads, road embankments, bridges, tunnels, underground power houses and offshore structures.

Indian Institute of Chemical Engineers (IIChE)

The SCHEMCON 2011 on Emergence of Green Technologies towards Sustainable Growth was organized jointly by the Department of Chemical Engineering, Heritage Institute of Technology, Kolkata and the Calcutta Regional Centre, Indian Institute of Chemical Engineers (IIChE) during September 23-24, 2011 at the Auditorium, Heritage Institute of Technology, Kolkata. The 7th Annual Session of the Students' Chemical Engineering Congress 2011 was also organized by the IIChE Students' Chapter, on Friday, the 23rd September 2011 at the same venue. Shri S K Jena, Honourable Minister of State for Chemicals & Fertilizers, Govt. of India and Minister of State (Independent Charge) for Statistics & Programme Implementation, GOI kindly consented to inaugurate the programme as Guest-in-Chief in the august presence of Dr D P Misra, Director, TATA Consulting Engineers Ltd., Mumbai & Past President, IIChE, Member Board of Governors, Engineering Council of India, Mr Hari Krishna Chaudhary, Secretary, Board of trustees, Kalyan Bharti Trust, Mr Vikram Swarup, MD, Paharpur Cooling Towers Pvt. Ltd., Prof B B Paira, Director, Heritage Institute of Technology, Mr K K Das, Chairman, Calcutta Regional Centre, IIChE, Prof B R Saha, HOD, ChE, Heritage Institute of Technology & Hony. Secretary, IIChE, Mr Praveen Saxena, Director & CEO, Blast Carbo Blocks Pvt. Ltd. and Jt. Secretary, IIChE. Mr Bhaskar Reddy, President, IIChE presided over the function.

Indian Institute of Industrial Engineering (IIIE)

IIIE, Delhi Chapter organized an Award Function on Sunday, the 4th Sept., 2011, at the Indian Institute of Technology Delhi (Department of Management Studies), Committee Room, IIT Wing, Vishwakarma Bhavan, Katwaria Serai, New Delhi. Shri R.K. Tyagi, Chairman &

MD, Pawan Hans Helicopters & President, IIIE (Delhi Chapter) conferred the Life Time Achievement Award on Shri VN RAI, former Managing Director, KRIBHCO.

Indian Institution of Plant Engineers (IIPE)

IIPE, AP Chapter) organized a national seminar jointly with the Mining Engineers Association of India on the subject: Modern Trends and Maintenance of Mining Equipment during July 7-8, 2011 at Hotel Mercure, Chirag Ali Lane, Abids, Hyderabad. The seminar was very well attended both by the industry and the academia.

Indian Society of Agricultural Engineers (ISAE)



A meeting of the Executive Committee of the ISAE along with senior Agricultural Engineers was held on 09-07-2011 in the ISAE-HQ at NASC Complex. Dr Gajendra Singh, President ISAE chaired the meeting and welcomed all the participants particularly respected Prof M M Mehta, Ex - President ISAE and Prof Jaswant Singh, Ex - Head, IIT Kharagpur who could spare their valuable time to attend the meeting and guide the group with their vast experience. Prof Gajendra Singh underlined the importance of timely publication of the Journal of Agricultural Engineering (JAE). He mentioned that JAE is the face of the Society and all efforts should be made to raise its quality. Dr De informed that third issue of 2011 of JAE is in progress. Prof Gajendra Singh attended the Board meeting of ECI held recently. He informed that Board of ECI has extended a warm welcome to the ISAE. The board has expressed desire to organize their next annual conference on a very broad topic related to all engineering disciplines including agricultural engineering. The need of the ISAE Chapter in all state capitals was felt strongly. Dr A K Singh VP (AC) was given responsibility in this regard. Prof Gajendra Singh underlined the decision of General Body regarding consolidation of scattered Central Government positions. It was suggested that there should be one position of Agricultural Engineering Commissioner like Commissioner Agriculture or Commissioner Horticulture and all states must have Directorate of Agricultural Engineering. The 46th Annual ISAE Convention and International Symposium on "Grain Storage" will be held at Pantnagar during 27-29 February 2012.

Institute of Urban Transport (India)

A working Group has been constituted by the Planning Commission for the 12th Five Year Plan on Urban Transport. Some of the important subjects that will be considered by the working Group include "to determine broad norms for selecting a mode of transport in Indian cities, policy level interventions and capacity building requirements to achieve the goals set up for the 12th Five Year Plan period, MoR urban transport projects target for expenditure during the 12th Five Year Plan, etc. The institute of Urban Transport (India) will handle most of the work of the working group. The Government of India (GoI) has initiated the Sustainable Urban Transport Project (SUTP) with the support of Global Environment Facility (GEF) and UNDP. The objective of the project is to facilitate the provision of urban transport infrastructure and services in a manner that is consistent with sustainable environmental considerations and the National Urban Transport Policy (NUTP). One of the components is targeted towards Individual Capacity Development in Urban Transport. This component of SUTP aims at establishing the needed capacity for regular skill development of public officials, other public functionaries and urban professionals in the field of urban transport to be able to find solutions for these problems and apply the skills in planning. Such National individual Capacity Development Initiatives will help the government at the Central, State and city levels to strengthen the core functions necessary for efficient administration of Urban Transport. Institute of Urban Transport (IUT) India has been entrusted with managing the sub component. The second training programme under this project was organized on "Public Transport" in association with GIZ during 11th to 15th July, 2011 at Goa.

International Council of Consultants (ICC)

The meeting of the Board of Governors and the AGM was held on September 28, 2011 at New Delhi. Many issues came up for consideration at these meetings. ICC continued to provide its services to the CIDC for its various programmes including holding its training programmes.

The Indian Institute of Metals (IIM)



The sprawling Leonia International Centre for Exhibitions and Conventions Shameerpet, Hyderabad will be the venue of the 49th National Metallurgists' Day (NMD) and the 65th Annual Technical Meeting (ATM) of the

Indian Institute of Metals. These events are organized by the Hyderabad Chapter of IIM in association with the student chapters at NIT Warangal, MGIT Hyderabad and JNTU Hyderabad. Six parallel sessions and a common poster session will be conducted emphasizing the following themes: (1) Material for Aerospace (2) Material for Energy (3) Materials for Defence (4) Materials for Automotive (5) Functional Materials (6) Emerging Materials and Processes. The IIM Delhi Chapter organized the IIM School Students Interactive Meet & Elocution Contest on 27th August 2011 at the Lecture Hall, Jawahar Dhatu Bhawan. Around 60 students (classes XI and XII) from six schools (Manav Sthali School, St Michaels Sr Sec School, Ramjas Public School, AES Sr Sec School, Bal Bharti Public School and Mount Carmel School) participated in the interactive meet. Students were accompanied by their teachers. The best performing students were awarded with mementos and cash prizes. IIM, Bangalore Chapter organized two-days Seminar on "Advances in Manufacturing Sciences, Technologies" and Techmart Session concurrent with METEX 2011 (International Exhibition on Metal & Metallurgical Equipment, Technologies & Supplies) during September 22-24, 2011 at Bangalore International Exhibition Centre, Bangalore. The event was very well attended.

The Institution of Civil Engineers (India)-ICE(I)

ICE(I) celebrated Engineers' Day on 15th Sep 2011 at Siri Fort Auditorium, New Delhi. On this occasion ICE (I) organized International Seminar on "Approach to Sustainable Futuristic Infrastructure", which was inaugurated by Smt. Sheila Dikshit, Hon'ble Chief Minister of Govt. of NCT Delhi. The Valedictory address was delivered by Sh. Haroon Yusuf, Hon'ble Minister of Food & Civil Supplies & Industries, Govt. of NCT of Delhi. Various delegates from the national & International organizations participated in the seminar. ICE (I) also hosted the 21st Executive Committee Meeting of the Asian Civil Engineering Coordinating Council on 16th & 17th September 2011 at hotel Leela Kempinski, Gurgaon, Delhi NCR. This was the first time that India hosted such meeting. Representatives from HAKI (Indonesia), ASCE (USA/Hongkong), JSCE (Japan), KSCE (Korea), CICHE (Taiwan), PICE (Philippines) & MACE (Mangolia) attended the meeting. A cultural programme exhibiting Indian Cultural Heritage was organized for the delegates at the gala farewell dinner on the 17th September. A ride on the Delhi Metro was also arranged on 17th September in the afternoon for the international delegates.



The Institute of Electrical and Electronics Engineers (IEEE)



An international Symposium on Low Power Electronics and Design (ISLPED) was held during August 1-3, 2011 at Fukuoka, Japan. The subjects that came up for discussions included low power design and technologies, ranging from process and circuit technologies, simulation and synthesis tools, and system level design and optimization. The 14th

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View Points

Engineering education reforms as an essential call of industry requirement says Shri KK Agrawal

Do we not aim for engineering education reforms as an essential call of industry requirement, as part of continuous dynamic process of course correction, to bring about technical education to satisfy the cause of industry requirement, already gone up very high in terms of growth of technology and highly increased volume of business? Knowledge and contents up gradation, vocational orientation in teaching, change in pedagogy methods and faculty orientation in terms of their exposure to engineering practice in industry are to be part of this process on a fast track of decision, implementation and application. This will call for creating awareness and appreciation amongst the Academia and apprising them to change without demur in interest of profession and country in order to achieve required level and quality of productivity. This will simultaneously be the solution to present shortage of qualified and trained manpower on Civil Engineering projects, at least.

Need of the hour is to pay attention to the improvement of engineering education says Shri Chinmay Biswas, Retired Chartered Engineer, Kolkata

The sole objective of engineering education is to equip the students with tools of respective branch of engineering and to develop their discretionary decision making power for effective use of the imparted knowledge at any given situation utilizing the available resources within a particular time frame. The recently concluded 6th national convention organized by the Engineering Council of India at

Jadavpur university campus, Kolkata, stressed the need for Industry Specific Engineering Education from the perspective of better employability of engineers and need based requirements of the Industry. The convention was essentially on the reform of engineering education. It is felt that the Indian engineering fraternity is yet to reach the comfortable zone of advanced engineering community overseas. Need of the hour is to pay attention to the improvement of engineering education. For this, an Apex Engineering Education Authority is required to be set up for proper administration and review of the technical education policy in the country, both short-term and long-term, depending on the country's priorities so as to give benefit to its citizen. The Authority may have among its member's representatives from the industry (public/private), universities, consumers, etc. Technical Education policy must suit the aspirations of the people in India and 'its' growth priorities depending on its available resources. Emphasis must be given on indigenous age-old technology up gradation for global marketing /explorations (e.g., liquor industry: - Pheni (Goa)); Laupani (Assam); Cholai (Bengal) etc. Technical Education, up to graduate level, should be broad based so as to impart conceptual knowledge of all the engineering disciplines including management and legal aspects. There should also be a provision in the policy for during-the- course exposure of the students to the industry and business. Such graduate engineers will be competent to take up day-to-day routine responsibilities in an industrial unit. Specialization in a particular discipline may be at the post graduate level. Engineers willing to go for teaching or Research and Development jobs may be encouraged for Doctoral programmes.

Letters to the Editor

Dear Mr. Shali

As a teacher of Chemical Engineering of Calcutta University, I would like to present the following: Engineers today have to do multi-tasking and more and more project work-based education should be part of the curricula. Industries have to take interest in the activities of the Academic Institutes. This involvement will help institutes design courses that are needed at present and will be required in future. Selection of teachers for new Engineering Colleges should be done carefully. The present picture is indeed dismal. Institute - Institute interaction needs to be promoted. For example, a teacher from Osmania University will take courses in Calcutta University and vice versa. This is how strength of departments can be mutually shared. ECI should take steps (discussion with institutes and industries) so that more and more talented engineers become interested in research. Industries have to invite doctorates to join them. By doctorate, I mean good doctorates that have shown initiatives and have developed some technology. Best regards.

— **Basab Chaudhuri**, Former Honorary Secretary,
Indian Institute of Chemical Engineers.

Dear Shri PN Shali,

Adaptation of the Associate Membership (AM) type of engineering course run by some of the Associations/ Societies and Institutions of Engineers, and meant essentially for the working technicians and diploma engineers, and delivered through distant mode to the freshers by the so-called Professional Institutions (PIs'), which have been set up at number of places in the country is yet another blow to the noble engineering profession. It has compounded the problem of deterioration in the quality of engineers that we produce. These courses are run by these fly by night PI's from the ramshackle places, on shoe string budget, and without any qualified or well paid staff. Thus, they are spoiling the formative years of the youth. I have tried my best with the MHRD & AICTE to put some regulatory checks in place on these courses, but to no avail. The PIs' also do not want to do any checks because by doing so they can come under the AICTE norms and hence they apprehend that they may lose the market. With the new norms, engineering courses offered in distance mode (DM) are not recognized. The AM courses run by some of the Associations/



Raghubir Singh

Societies and institutions of Engineers are also not in a regular mode. Best way out for the PIs' as well as the professional institutions of engineers is to make their courses viable, value-based and also consider offering these courses under a Convergence Mode - 33% lectures and 34% audio-visual delivery both through the internet & 33% on the job training with the industry. They should get these courses recognized by the DEC. There is a need to have a body like Engineering Council of India (ECI) at the National level which can exercise moral and other control over the PI's, apart from monitoring quality and standards of the PIs' offering these engineering courses. Fortunately, today we have this body in position. I can assure you that if there is no regulatory mechanism for these courses, these so-called PIs' will be past history soon. Facts and figures are quite startling. These PIs' charge more fee by way of registration/exam/syllabus than what the lower end regular engineering colleges charge. Passing out these courses is once in a blue moon thing because PIs' test the students for what they do not know. What PIs' offer is equivalent to a Degree and not a Degree? This equivalence is NOT recognized at most of the places- in job market and for higher studies-barring some exceptions which only prove the rule. AICTE has been mandated under an Act of Parliament to regulate technical courses in India. How it has left out these courses should not be a great mystery. Nothing comes free in license -quota system. It is a high volume small business to dupe unwary students mostly in 40-55% PCM range with assurance to make them Aerospace or Computer Engineers or Mechanical Engineers, or what you have, through ad blitzkrieg mostly in vernacular press or through agent system and even through old students, who themselves have been the victims of this phenomena by offering some incentives to them. How do we resurrect it? I suggest that the ECI should take initiative and call a meeting with these PIs' and Associations/ Societies and Institutions of Engineers and discuss this matter of national importance. Further, ECI should have an academic wing to regulate examination system (moderation, checking copying, holding examinations at non-dubious places, proper marking system, etc.) Recognition aspect going to the DEC, as, reportedly, is being attempted by these PIs', will only complicate the matter. Because engineering courses cannot be offered in Distance Mode. ECI should also take up the matter with the MHRD, sooner the better.

Yours etc.

— **Air Commodore Raghubir Singh (Retd)**

Recommendations of the 8th National Conference on Sustainable Development - Role of Engineers & Technologists

The engineering education system should emphasize an understanding of sustainability in its harmony with the historical, cultural and social traditions of the society. Emphasis on practical engineering education should also include sustainability aspects; and the engineering curriculum should have a compulsory core subject on sustainability to include the philosophy, the basic and general concepts of sustainability and its practical application. Water management should get a very high priority in our policy frame work on sustainable development. The Government should continue to facilitate indigenous efforts both for innovations in the conventional technologies for making them sustainable and for the development of new sustainable technologies, wherever considered very necessary. For this, India should increase its spending on R&D- both by the government and the corporate sector. The Government should facilitate transfer of sustainable technology from abroad selectively and pragmatically. India needs a transition time and funds for making a changeover to taking up its future development programmes which are sustainable; and for enabling it to accept legally binding emission targets.

Policies on sustainability should also include mandatory actions

that are consistent with the cultural values and diversity of a pluralistic society. Policies and programmes which encourage energy efficiency and conservation need to be strengthened. Future energy needs will rest on Hydrogen. The role of engineers and technologists in our future policy planning for sustainable development needs to be underscored. There is a need for their full involvement in formulating policies and taking decisions on projects that should be designed for realizing the essential sustainability goals across the sectors.

We have not been in step with the rest of the world in contemporary research on Hydrogen. We must put in a lot of efforts on this research to be at par with the best in the world. There is a need to regulate engineering profession in India like the other professions such as Medical, Legal, Architects, Chartered Accounts, etc., are regulated. It should also include a statutory code of ethics for engineers, which must reflect a strong commitment to principles of sustainable development.



Press Conference



Engineering Council of India (ECI), as per the decision taken by its Board of Governors, organized a press conference on August 11, 2011 at New Delhi at which the issue of engineers having received a severe beating in the aftermath of the CWG 2010 in the 3rd Report of the Shunglu Committee, which covered Infrastructure for the Commonwealth Games, wherein the committee had made several observations on the role and actions of engineers which could lead to two inferences-the



concerned engineers were incompetent and/or they were corrupt. This has caused wide-spread dismay and de-motivation in the engineering fraternity. The second issue concerning engineering professional raised at the press conference was regarding the delay in moving the Engineers Bill to the Parliament. The press conference was agressed by Dr Uddesh Kohli, Chairman, ECI and other eminent engineers. It was very well attended and it got a very wide coverage both in the print and electronic media.

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International Symposium was held during August 27-31, 2011 at Montpellier, France. It was on Electrets (ISE 14) Gathers. Scientists working in the fields of electrical engineering, materials science, and condensed matter physics and chemistry attended the symposium. Both these symposia were very well attended by the delegates from India.

The Institute of Marine Engineers (India) (IMEI)

The AGM of IMEI was held at Chennai on September, 2011. An international conference was organized by the Royal Institution of



Naval Architects, UK in association with the Coventry University, UK on Marine Design during September 14-15, 2011 at Coventry, UK. The conference provided a forum for reporting and discussing the design practice and technical issues associated with aesthetic design. The full spectrum of marine design from small craft to super yachts, including commercial and specialist vessels, were examined discussed. It was very well attended, particularly by the Indian marine engineers.

Think it Over

Method of Acquiring Knowledge: Swami Vivekananda

All the great prophets, saints, and the seers of the world "what did they do? In one span of life, they lived the whole life of humanity, traversed the whole length of time that it takes the ordinary humanity to come to perfection. In one life, they perfect themselves; they have no thought for anything else, never live a moment for any other idea, and thus the way is shortened for them. This is what is meant by concentration, intensifying the power of assimilation, thus shortening the time. The more this power of concentration, the more knowledge is acquired, because this is the one and only method of acquiring knowledge. Even the lowest shoeblack, if he gives more concentration, will black shoes

better; the cook with concentration will cook a meal all the better. In making money, or in worshipping God, or in doing anything, the better the power of concentration, the better will that thing be done. This is the one call, the one knock, which opens the gates of nature, and lets out the floods of light. How has all the knowledge in the world been gained but the concentration of the powers of mind? The world is ready to give its secrets, if we only know how to knock, how to give it the necessary blow. The strength and force of the blow come through concentration. There is no limit to the power of the human mind. The more concentration it is, the more power is brought to bear on one point; that is the secret.

ENGINEERING COUNCIL OF INDIA

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