

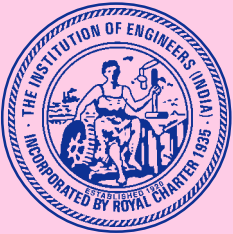
# Institution of Engineers (India)

T.N. STATE CENTRE

## BULLETIN

Chairman :  
Er. K.P. Ramanathan, FIE

Honorary Secretary :  
Er. D. Sundarasekaran, FIE



Vol. 15 : No. 5

August 2016

### From the Chairman's Desk....

Dear Engineers,

We all know that September 15 is celebrated every year in the country as "Engineers' Day" to commemorate the birthday of the legendary engineer Sir Mokshagundam Visvesvaraya. Sir Visvesvaraya, an eminent Indian engineer and statesman was born in a remote village of Karnataka, the State that is incidentally now the Hi-tech State of the country. Due to his outstanding contribution to the society, Government of India conferred "Bharat Ratna" on this legend in the year 1955. A theme of national importance is chosen every year by the Council of the Institution of Engineers (India) and deliberated at its various State/Local Centres to educate the engineering fraternity in general and the society in particular. This year the Council of the Institution of Engineers (India) has selected the theme as "Skill Development for Young Engineers to reform the Core Sector: Vision 2025".



The IE (I), Tamilnadu State Centre is planned to celebrate 49th Engineers Day by giving various awards to Individual/Academia/ Industry /Students Chapters /Students for their excellent performance during the Engineers day. To apply for these awards the application form may be download from our TNSC website : [www.ieitamlnadu.org](http://www.ieitamlnadu.org) and send their application form to the "Honorary Secretary, IE (I), Tamilnadu State Centre". The information along with relevant proof relating to the award needs to be provided with the application. Awards will be presented to all awardees during the 49th Engineers day Celebration to be held on 15 September 2016 at IE(I),TNSC Premises.

The filled in application forms with supporting documents should reach the IE(I),TNSC on or before 03rd September, 2016. The acknowledgment of receipt of the nomination will be send to concerned person through e-mail. The awardees will be intimated through e-mail / letter on 10th September 2016.

Thank you,

I will meet you again.

**Er K P Ramanathan**  
Chairman

### Talk on "Communication Technologies and Interfacing Techniques in Smart Grid"

29.06.2016



A technical guest lecture meeting was held on 29th June 2016 at 6.00 pm in IE(I),Tamilnadu State Centre auditorium. The topic of the day was on "Communication Technologies and Interfacing Techniques in Smart Grid". Er K P Ramanathan, FIE, Chairman welcomed the gathering and introduced the Chief Guest Er V S Sriraja Balaguru, M.E., MIE, Assistant Engineer, Tamilnadu Electricity Board, Chennai. Er V S Sriraja Balaguru delivered the lecture on the above topic with power point presentation.

Today's electricity grid is transitioning to a smart grid. The write up covers role of Information Communication Technology infrastructure, on top of the power grid. The write up is based on motivation for the development of smart grid. The smart grid transition happens at the various grid levels (i.e., generation, transmission and distribution), Communication networks play an important role in the power system. However, from a communication perspective, existing power grid networks suffer from several drawbacks.

(contd. on page 2)

(contd. from page 1)

Distribution grids have limited monitoring and control capabilities and today in practice still depend largely on manual actions. As part of the efforts to transition to more automated solutions, advanced metering infrastructure (AMI) has been the focus on the distribution system level. It provides distribution system operators not only with system state information, but also provides remote control capabilities. AMI systems originate from automated meter reading (AMR) systems capable of remotely reading consumption and records, alarms and status information from the customer. However, AMR is limited by one-way communication capabilities and does not enable control actions based on received information. AMI on the other hand provides two-way communication, and therefore supports control over the demand.

Meter Data Acquisition System is to acquire meter data from System and select consumer meters automatically from remote avoiding any human intervention, monitor important distribution parameters, use meter data for accurate billing purposes and generate exceptions and MIS reports for proper planning, monitoring, decision support and taking corrective actions on the business activities by the management.

**Wide-Area Monitoring Protection & Control (WAMPAC):** To prevent instability and collapse of the system control and protection schemes are essential.

Traditional protection schemes depend on local measurements sent to a central control system that is part of the supervisory control and data acquisition (SCADA) system.

The SCADA/EMS technology has the capability to provide only steady state view of the power grid. Synchrophasor measurements over wide-area facilitate dynamic real time visualization of power system and are useful in monitoring safety and security of the grid in an effective manner. Synchrophasor measurements are provided by PMUs located strategically at substations/generating stations in the grid. Synchronized phasor Measurements (synchrophasors), representing both magnitude and phase angle of voltage or current waveform at particular points in the grid, are obtained by phasor measurement units (PMU) devices and further collected by phasor data concentrators (PDC).

This offers real-time state information with microsecond time accuracy, synchronization using Global Positioning System (GPS) clocks. Such PMU data supports detailed and accurate state estimation, and enables multiple applications including distributed wide area control, protection, wide-area situational awareness, post-event analysis, etc.

Er. K P Ramanathan, FIE, Chairman presented the memento to the Chief Guest Er V S Sriraja Balaguru. Er D Sundarasekaran, FIE, Honorary Secretary proposed the vote of thanks. About 40 members participated in the program.

## Talk on “Advanced Structural (Concrete/Steel/Dynamics) Analysis using Finite Element Methods”

14.07.2016



A technical guest lecture meeting was held on 14th July 2016 at 6.00 pm in IE(I), Tamilnadu State Centre auditorium. The topic of the day was on “Advanced Structural (Concrete/Steel/Dynamics) Analysis using Finite Element Methods”. Er K P Ramanathan, FIE,

Chairman welcomed the gathering and introduced the Chief Guest Mr. Javier Marcelo Mora, M.Sc. Civil Engineer, Research & Development Department, Spain. Er. Zacharia George also addressed the gathering giving insights into how the Finite Element Method (FEM) would be an useful tool for all Structural Engineers.

Techlead Solutions Pvt. Ltd., Chennai, provide Engineering Solutions in the areas of Civil, Mechanical and Electrical Engineering. One of their interesting products is CivilFEM, a Finite Element Method based Analysis software developed by M/s. Ingeciber S.A, of Spain. Wanting to share this

(contd. on page 3)

(contd. from page 2)

advanced technology with the Civil and Structural Engineering fraternity of Chennai, Mr. Javier Marcelo Mora, who heads the FEM Technical team at Ingeciber, was invited to visit India to present the software and demonstrate its capabilities. The Indian Association of Structural Engineers was approached and Er. Zacharia George readily agreed to have a presentation of the software done at the premises of the Institution of Engineers (India), Tamilnadu State Centre.

Mr. Javier Marcelo Mora gave a demonstration of how CivilFEM could be used in various applications, analysing the structure of a stadium roof, the collapse of a bridge and the damage to a structure caused by an earthquake as examples.

He also demonstrated the application of CivilFEM software in various areas like:

- linear/non linear static, transient and buckling analysis,
- Modal & Spectrum Analysis,
- Harmonic, Creep & Shrinkage Analysis
- Cracking, Crack Propagation, Heat Transfer & Seepage Analysis
- Geotechnical, soil structure interaction

The advanced non linear capabilities of the software made all these types of analysis possible.

In the interactive session that followed, many of those who attended raised queries and got them clarified.

Er. K P Ramanathan, FIE, Chairman presented the memento to the Chief Guest Mr. Javier Marcelo Mora. Er D Sundarasekaran, FIE, Honorary Secretary proposed the vote of thanks. About 45 members participated in the program.

### Superannuation of Mr C R Nandakumar, IEI-TNSC



Mr C R Nandakumar, Office Attendant, Gr III of the Tamilnadu State Centre is superannuating from the service of IE(I) on 31st July 2016. He joined the IE(I) on 1st November 1990 and rendered his excellent service for a period of 25 years. The Committee, TNSC wishes Mr C R Nandakumar and his family a happy and healthy life in the rest of his life also.

To  
**The Honorary Secretary**  
The Institution of Engineers (India), Tamilnadu State Centre  
19 Swami Sivananda Salai, Chennai - 600 005

**Make your contributions  
(Minimum Rs. 1000/-) through this slip**

Dear Sir,

### CONTRIBUTION TO THE IEI-TNSC BUILDING DEVELOPMENT FUND

In response to your appeal, I / we enclose a Cheque/DD for Rs. .... (Rupees ..... only) as my / our contribution to the Institution of Engineers (India), Building Development Fund.

Encl: Chq./DD No. .... Dt. .... for Rs. .... Yours faithfully,

From Address: .....

..... **Memb. No.** .....



Registered with the Registrar of  
Newspapers for India, No. TNEN G/2001/5585

DATE OF PUBLICATION: 1<sup>st</sup> of every month  
Regd. No. TN/CH(C)/344/15-17  
Licence No. TN/PMG(CCR)/WPP 455/15-17



## Two-Day International Conference on **CHALLENGES IN DOMESTIC AND INTERNATIONAL ARBITRATION**

23-24 September 2016, Venue: Crowne Plaza Chennai Adyar Park, 132, TTK Road, Chennai-600 018  
Very Rare chance for Engineers and Architects to know more about  
National and International Arbitration

**Indian Institution of Technical Arbitrators** has organized an International Conference at Chennai. The speakers are expert in Arbitration both National and International level.

With all round development taking place in India, major projects, particularly infrastructure projects and many mega projects are being implemented in different parts of the country. In spite of one's best efforts to avoid disputes, they cannot be avoided altogether in a major contract. In order to complete projects avoiding cost and time overrun, suitable mechanism should be in place to resolve disputes as and when they arise. The amended Arbitration and Conciliation Act 1996 has raised much hope which promises to be effective tool for speedy and cost effective dispute resolution besides facilitating implementation of foreign awards. This augurs well for raising the level of ease of doing business in the country, thus paving way for attracting more Foreign Direct Investments (FDI). India, where a large number of projects by MNC's are underway, has the potential of becoming the Hub of International Arbitration. The hurdles if any in this context have to be identified and removed. The conference is organized to address these problems, besides updating knowledge on the subject and hone the skills of practising and aspiring Arbitrators.

The conference will be useful for Engineers of all branches, Architects and others. Certificate will be awarded to the delegates. Rs.8000/- for IITArb & Other Institutions' members and Rs.10,000/- for others. 20% discount for early bird registration on or before 15.08.2016. The cheque / DD shall be drawn in favour of "IITA Conference" payable at Chennai and sent with the name, address, Mobile No. and membership No. to The Organizing Secretary, Indian Institution of Technical Arbitrators, First Floor, 4/36, Loganathan Colony, Mylapore, Chennai-600004.

Mobile: 98402 89672, 98403 58060 E-Mail: iitarb2003@gmail.com. For more detail please refer [www.iitarb.org](http://www.iitarb.org)

**Rush your registration early since the participation restricted to 250 delegates. Also avail early bird discount**

### **TECHNICAL PROGRAMME FOR AUGUST 2016**

Lecture: 6.00 p.m.

Venue: IE (I) Auditorium (Unless mentioned otherwise)

Tea: 5.45 p.m.

- 16<sup>th</sup> Aug. 2016** Ar F B Pithavadian Memorial Lecture on the theme "Lived and Living Habitats: Identity and Crisis" by **Dr. Raneef Vedamuthu**, Chairperson, Architecture & Planning, Anna University, Chennai.
- 20<sup>th</sup> Aug. 2016** (9.00 am- 5.00 pm) One Day Workshop on "Safe and Efficient Transport System for Chennai" by **Er K P Sathyamurthy**, Convener and Committee Member of the Civil Engineering Division and **Dr V Natarajan**, Convener and Committee Member of the Textile Engineering Division.
- 26<sup>th</sup> & 27<sup>th</sup> Aug. 2016** (9.00 am- 5.00 pm) Two days **All India Seminar on "Make in India"** by **Er K S Ramalingam**, MIE, Convener and Co-opt member of Mechanical Engineering Division.

Licensed to post without pre-payment

Posted on: 6<sup>th</sup> August 2016

Posted at: Egmore RMS (Patrika)

## *Bulletin*

IF UNDELIVERED RETURN TO:

The Institution of Engineers (India)

Tamilnadu State Centre

19, Swami Sivananda Salai

Chepauk, Chennai – 600 005.

Phone: 044-25360614 / 25369433

E-mail: [ieitamilnadu@gmail.com](mailto:ieitamilnadu@gmail.com) / [tncs@ieindia.org](mailto:tncs@ieindia.org) Website: [www.ieitamilnadu.org](http://www.ieitamilnadu.org)

Printed by Er D Sundarasekaran and Published on behalf of The Institution of Engineers (India), Tamilnadu State Centre, 19, Swami Sivananda Salai, Chepauk, Chennai 600 005 and Printed at Sunitha Printers, 193, Peters Road, Chennai 600 014. Editor: Er D Sundarasekaran