

## **IEEE Power & Energy Society Bangalore Chapter, India**



**Submission of 2015 Summary of Activities for**

***“Outstanding Chapter Award 2015”***



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## 1.0 EXECUTIVE SUMMARY / NOMINATION

### 1.a EXECUTIVE SUMMARY

IEEE PES Bangalore chapter once again had another important and action-packed year 2015. Highlights were a number of National and International conferences, Women in Engineering event, Young Researchers' meet, Industry-Academia and Distinguished Lecture Program by John D. McDonald, P.E. Two new Student Chapters were also added in the local technical institutes.

Summary of the events and recognitions:

- One International conference
- One national conference
- Three workshops
- Women in Engineering (WIE) event
- Young Researchers' Meet (YRM)
- Distinguished Lecture Program (DLP)
- Technical talks in India and overseas
- Scholarship-plus initiative
- Industry-Academia Conclave
- Collaboration efforts with other PES Chapters
- Smart Village initiative
- HPCP
- IEEE PES Outstanding chapter Runners-up
- 10 EXECOM meetings

#### **Office bearers (2015):**

Chair: **Dr. Kannan Tinnium**, GE

Vice-Chairs: **Mr. Suresh V**, POSOCO

**Dr. Kannan Balaraman**, PRDC

Secretary: **Mr. Rajashekhar S**, GE

Joint Secretary: **Dr. K. Uma Rao**, RV College of Engineering, Bangalore

Treasurer: **Mr. Deepak Krishnan**, World Resources Institute.

Joint Treasurer: **Mrs. Lakshmi Balaraman**, PRDC



## **1.b REGION REPRESENTATIVE NOMINATION**

## 2.0 ACTIVITIES

### 2.a: TECHNICAL ACTIVITIES

#### 2.a.1 Three-Day National Workshop on “Smart Grid Technologies” at PES University campus during 5-7 March, 2015

The workshop focused on Smart Grid in India, Scope for Research and Development, Smart Distribution System & Demand Response & its Issues, SCADA & Micro-Grid Implementation for Educational & Academic Campuses, Advanced Embedded Controller in Smart Grid Application. It also comprised a half day demo & hands-on experience on smart grid simulator, SCADA setup and Matlab cortex M-4 based MPPT inverter trainer.



## **2.a.2 Two-Day National Symposium on Sustainable Energy Technologies for Academic Campuses, Basaveshwar Engineering College, Bagalkot (BEC)**

The topics covered in this symposium were System representation and load analysis of technical campuses, SCADA for distribution automation, Smart initiatives in distribution systems, renewable integration in distribution systems and implementation aspects of microgrids and smartgrids. The speakers and subject experts were from Ministry of power (Government of India), Energy department (Government of Karnataka), academic institutions, R&D establishments and utilities.





### **2.a.3 International Symposium on “Advances in Power Distribution Engineering: Distributed Generation, Micro-Grid and Renewable Integration”, August 28-29, 2015, National Institute of Engineering, Mysore**

The symposium brought together utilities, power systems operators, industrial experts, researchers and domain expert professors from premier international and national academic institutions to exchange knowledge, ideas and share their experience on advances in power distribution engineering with strong focus on Distributed Generation, Micro Grid and Renewable Integration. The participants were faculty members from various engineering colleges, practicing engineers from various industries and utilities, and post graduate and research students across globe. The objective of this symposium was to provide up-to-date knowledge about the technical and economical issues related to the integration of renewable resources and distributed generation in distribution systems.

### **2.a.4 Technical sponsorship to 7<sup>th</sup> National Conference on “Advances in Energy Conversion Technologies” (AECT-2015) held at Manipal Institute of Technology (MIT), Manipal**

AECT 2015 was held at MIT, Manipal in January 2015. The technical program of AECT 2015 comprised of tutorials and invited lectures on selected topics by eminent academicians / industry personalities and panel sessions in addition to presentation of accepted papers. Full day Pre-conference tutorials on specialized areas of Electrical and Electronics Engineering were also conducted by eminent academicians and industry experts on 22nd January 2015.

## **2.b- EDUCATIONAL ACTIVITIES**

### **2.b.1 Technical talks by IEEE PES Bangalore Chapter Chair in other PES chapters**

Dr. Kannan Tinnium, Chair IEEE PES Bangalore, gave technical presentations to IEEE PES Chapters in New Orleans as well as in Schenectady. These talks set the tone for exploring possibilities of collaboration of Bangalore chapter with those chapters in the near future.

### **2.b.2 Distinguished Lecture Program (DLP) by John D. McDonald, P.E. on “The Future of Energy: Smart Grid and Beyond” on 14<sup>th</sup> December 2015**

The DLP program was graced by an expert lecture from John D. McDonald, P.E. [Director, Technical Strategy & Policy Development (GE Grid Solutions), IEEE Fellow, IEEE PES President (2006-2007), IEEE Division VII Director (2008-2009)]. The purpose of this talk was to familiarize participants with a vision for the future of energy. He spoke about key industry/societal trends in generation, transmission, distribution and the consumer. He also discussed on the three key visionary concepts from the points of view of technology, industry standards and policy development. The three concepts were the greater value of the integration of key technology components and the importance of interoperability, the impact of high penetration of rooftop solar PV on the distribution system, and Intelligent Electronic



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Device (IED) integration and enterprise data management. Mr. McDonald also interacted with the EXECOM members and shared his ideas about the chapter activities.

## **2.c PES / ENGINEERING PROFESSIONAL PROMOTION**

### **2.c.1 Industry-Academia Conclave at B. M. S. College of Engineering, Bangalore**

A One-Day Event on Industry-Academia Meet was organized by the IEEE PES Bangalore chapter, in association with BMS College of Engineering, Bangalore. The program aimed at understanding importance and different models of Academia-Industry interactions, steps for better relations and means to overcome some of the barriers. The conclave included talks by prominent academicians and industry personnel, a panel discussion on the theme and ample opportunity for networking among academia and industry professionals. A special session was also arranged which focused on role of innovation and its importance for the institutions to evolve as research centers.





**Inauguration of Industry-Academia Conclave, BMSCoE, Bangalore**

### **2.c.2 Smart Village Initiative**

In line with IEEE PES mission of extending scientific and engineering information for the betterment of society initiative, the IEEE PES Bangalore chapter is exploring how we can help electrify remote villages in this country. The team has identified and visited three tribal villages near Mysore, Karnataka. The objectives of this project are as below:

- Providing optimal electrical sources to communities, not served well by grid.
- Help the communities in getting electrical source for their community development, students need, and for the safety.
- Provide platforms for nearby universities and colleges to design and maintain the systems.

It is proposed to partner with NIE Center for Renewable Energy & Sustainable Technologies (NIE-CREST) at National Institute of Engineering, Mysore to undertake this program. Initial proposals for the types of the system to be installed have been made and the project will be realized in 2016.

## 2.d STUDENT ACTIVITIES

### 2.d.1 Scholarship-Plus Initiative

The chapter has contributed to the IEEE PES Scholarship program which is a new initiative from the IEEE PES headquarters to identify and assist bright students. The EXECOM has decided to sponsor one eligible student with a budget of INR 3,00,000 (three lakh).

### 2.d.2 PES Student Chapters and Student activities

Two new PES student chapters were formed at the following education institutes in 2015.

- R.V. College of Engineering, Bangalore (10<sup>th</sup> August 2015)
- Amrita School of Engineering, Bangalore (10<sup>th</sup> September 2015)



**Inauguration of PES chapter at RVCE, Bangalore**

### 2.d.3 Workshops and Tech-talks at Student chapters

| Date       | Topic   | Speaker(s)   |
|------------|---|--|
| 1/9/2015   | Seminar on Power Quality  | Mr. Hasan M., Senior Manager, Advanced Power Quality Solutions, InPhase Power Technologies Private Limited   |
| 9/9/2015   | Talk on "Impact of greenhouse effect and carbon foot print"                         | Dr. Sridar Babu, TERI (The Energy and Research Institute)  |
| 19/09/2015 | Workshop on "industrial Energy Auditing"  | Mr. Jayakumar M., Associate Professor and special officer at LBS center for science and technology, regional centre, Thrissur, Kerala.<br>Mr. Santhosh, CEO, Athul Energy Consultants. |
| 5/10/2015  | "Talk on Future Battery Charging Infrastructure for Transportation Electrification" | Dr. Kishore Naik Mude, Assistant Professor, Department of EEE, Amrita School of Engineering, Bangalore   |

## 2.e AFFINITY GROUPS

### 2.e.1 Young Researchers' Meet (YRM) at Basaveshwar Engineering College, Bagalkot (BEC)

The main purpose of this workshop was to create a network of young researchers, both experimentalists and theorists, and bring fruitful collaborations across different domains of Power and Energy Systems. The workshop was primarily aimed at graduate & post graduate students, post graduates and researchers working in the area of Power and Energy, to explore vast research potential and meet the aspirations of future generations.

It was held on December 5<sup>th</sup>, 2015 and attended by 60 young researchers. The topics discussed by eminent industry experts were

1. Smart grid research scope –possible areas for research
2. Integration of renewable with grid – System problems, islanding, anti-islanding schemes, problem of frequency control
3. Power electronics aspects with microgrids – Design of inverters, different PWM techniques, multilevel inverters etc.



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There was a special mentoring session as well to guide the young minds and address their specific concerns.



YRM at BEC, Bagalkot





**YRM at BEC, Bagalkot**

### **2.e.2 Women in Power Engineering program**

The IEEE PES Bangalore section, held a one day workshop on Women in Engineering, on Nov 21<sup>st</sup>, 2015. The theme of the workshop was 'Leadership amongst women - career progression'. The event had three panel discussions with details as follows.

- i) Panel 1: Topic of discussion – Leadership amongst women. The speakers were Dr. Kshira Muttana (GE), Ms Rekha Subramaniam (ABB), Dr. Kala (ADE) and Dr. V. Pallavi (Philips). The session was moderated by the PES section chair Dr. Kannan Tinnium. The focus of the discussion was on the challenges faced by women specifically, as they go up the ladder in an organization. The speakers shared their individual experiences and stressed on the need for women to stand up and seek their rights.



**Panel Discussion at WIE event, Bangalore**



**Participants at WIE event, Bangalore**

- ii) Panel 2: Topic of discussion – Work-Life balance. The speakers were Dr. Madhurima Das (Gubbi Labs), Dr. Prabha Seshachar (Kidwai Institute for cancer research), Dr. Pradeepa (BMS College of Engineering) and Dr. R. Nagaraja (PRDC). Two of the speakers being medical professionals, voiced the opinion that women in their effort to excel in all areas, stress out



more than the men and need to emerge out of the 'super mom' concept. Dr. Nagaraja discussed the challenges in managing time for an entrepreneur and Dr. Pradeepa, likened the balance to the balancing act of riding a bicycle. The session was moderated by Dr. Balaraman, Vice-chair, PES section.

- iii) Panel 3: Topic of discussion – Changes in work-place. The speakers were Ms. Jyothi Shetty (Novell technologies), Ms. Rajeswari Sundar (Ness technologies) and Ms. Jane Jose (SRLDC, Bangalore). The panelists discussed the changes in the workplace over the last two decades due to increased women employees and the need to improve facilities like better maternity leave, crèche facilities, acceptance of the competence of women by their male colleagues and the need for women to be comfortable with power to bring about a change. The session was moderated by Dr. Uma Rao.

Over 100 participants from industry and academia participated in the event. The feedback from the participants reflected the success of the program.

## **2.f PES Conferences**

### **2.f.1 International Conference on Power and Advanced Control Engineering – ICPACE 2015**

The IEEE PES sponsored conference in Region 10 was held during 12-14 August, 2015 at BNM Institute of Technology, Bangalore, India. The conference was designed to deliberate on technological advances in Power and Control Engineering. As the topics of the conference are of global significance, resource persons were invited from premier institutions in India and abroad who are active in these fields. As part of the pre-conference, four tutorials were conducted on 12<sup>th</sup> August 2015 for formal learning and have created a platform to interact and exchange ideas. The pre conference tutorials covered topics were "Sub synchronous oscillations in power systems", "Scheduling and forecasting of Renewable Energy", "Commercial aspects of Solar technology" and "Reactive Power Planning with Wind/Renewable Energy on transmission Grid". Panel discussion on Control Engineering and Power Engineering were organized on 13<sup>th</sup> & 14<sup>th</sup> August 2015 having eminent Industrialists, Engineers and Academician to enrich the scholars with ideas to encourage researchers to pave the path of their research areas.



#### **Inaugural Function, ICPACE2015**

The conference received over 326 papers from India and abroad, of which 112 were accepted for presentation and publication. The paper presentations were spread across four sessions with three or four parallel tracks in each session. Renowned personalities from academia and industry chaired the tracks and provided useful suggestions to the researchers. The conference was attended by 103 authors, 132 registered delegates, 18 speakers and 32 committee members. IEEE PES Bangalore chapter financially supported about 10 IEEE PES student members.



Panel Discussion, ICPACE2015

## 3 MEMBERS

### 3.a MEMBER AWARDS / RECOGNITION / NOMINATIONS

#### 3.a.1 Outstanding Service Award

IEEE PES Bangalore chapter recognized the services of **Prof. S. S. Murthy**, Fellow, IEEE and Execom member of IEEE PES Bangalore chapter in 2015, in the power engineering field and presented him with "Outstanding Service Award". This is an annual award which is given to an eminent engineer for the services in the field of Power Systems in Karnataka (under the jurisdiction of Bangalore chapter).



**Prof. S. S. Murthy, Recipient of the Outstanding Service Award**

#### 3.a.2 Outstanding Engineer Award

**Dr. Nagaraja R.** was presented with the "Outstanding Engineer Award" for his immense contribution to Power and Energy engineering field and his leadership role in the growth of IEEE PES Bangalore chapter.



**Dr. Nagaraja R., Recipient of the Outstanding Engineer Award**

### **3.a.3 Outstanding Volunteer Award**

An “Outstanding Volunteer” award has been bestowed upon **Dr. Kasi Viswanadharaju** for his exceptional and wholehearted voluntary services to IEEE PES Bangalore chapter.

### **3.a.4 Other awards received by the chapter**

The chapter was awarded a **Runner-up position at 2014 IEEE Outstanding Chapter Awards**. It also received the **HPCP Award – 2014**.

### **3.b MEMBERSHIP ADVANCEMENT**

As a standard practice, the chapter assigns one of the executive committee members as the lead for membership enhancement and one for overseeing student membership enrollment and adding more student chapters. This has resulted in adding two new student chapters in 2015 and more results of the efforts are expected to follow in 2016. The Execom members are personally visiting the colleges and encouraging the students, teaching staff and the management to actively take part in and sustain IEEE activities.

### 3.c MEMBERSHIP GROWTH / RETENTION

In 2015 the chapter had 198 members of whom about 40 were senior members. The chapter has actively participated in the IEEE Bangalore chapter's initiative for Senior Member Elevation (Simple-8). The chapter has prominently promoted and endorsed IEEE at every major technical and student chapter event to attract undergraduate students as well as experienced engineering professionals.

## 4 CHAPTER OPERATIONS:

### 4.a CHAPTER WEB PAGE

IEEE PES Bangalore has an active web page, which is continuously updated under the guidance of one of the Execom members.

<http://www.ieeeepesbangalore.org/>

### 4.b PES ONLY (non-joint) CHAPTER

Bangalore Chapter with nearly 200 members is a PES only chapter and falls under large chapter category.

## 5 OTHER ACTIVITIES:

IEEE PES Bangalore appreciates that the Execom members' voluntary efforts towards serving IEEE-PES are derived thanks to the support and encouragement extended by their family members. In order to recognize this fact, a family get-together event of Execom members was organized, which went a long way in establishing rapport between all concerned.



IEEE PES Bangalore chapter looks forward to sustained growth in its activities in the years to come, helping the country take '**Power to People through the Power of Knowledge**'.



*Submitted on behalf of IEEE PES Bangalore Chapter by:*

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