



CALCUTTA SECTION

Geo code R0 01 37

2011

PART A - SECTION SUMMARY

A.1 Executive Summary

- ✓ CALCON-2011 organized jointly with CAS Calcutta Chapter on & from 4th & 5th November, 2011 at Jadavpur University Campus.
- ✓ Calcutta Section organized two-day workshop on 'Soft-Skill Development' in collaboration with HRM DEPT – BESUS with the support from IEEE R10 EAC 2011 on 15-16 July, 2011.
- ✓ IEEE Calcutta Section organized a One Day Program 'School Program for 90 VIII to X students' involving school students. The programme was jointly organized with APMTT Chapter & WIE on September 3, 2011.
- ✓ APMTT Chapter organized AEMC-2011 & India Antenna Week (IAW) from 18th to 22nd. December, 2011.
- ✓ 27th. National Convention of Electrical Engineers jointly with The Institution Of Engineers(I). National Seminar on Powering India by 2020: A Roadmap to Greener India was arranged as corollary to the convention.
- ✓ IAS Chapter organized short term training courses on Power Electronics jointly with Department of Electrical Engineering, BESU.
- ✓ IAS Chapter bagged the prestigious 'Continuing Outstanding Small Chapter' (selected by the CMD Awards Committee) for 2010 performance.
- ✓ PES Chapter bagged High Performance Chapter Award (HPCA) for eleventh time in a row
- ✓ Mr. P. Rajamani, who has made a mark as a volunteer during CALCON-2011 has been nominated for felicitation for advancing the cause of IEEE in Kolkata. He will be awarded a plaque during the AGM.
- ✓ Photonics chapter observed National Science Day on 11th. March, 2011.
- ✓ Calcutta Section has registered a membership growth of 6.8%.
- ✓ A new Students' Branch (EDS) has been formed at Heritage Institute of Technology.
- ✓ Annual Social was organized on 6th. February, 2011 at Nalban Fisheries Project, Salt Lake.

A.2 Financial Report

Opening Balance: Rs. 25,37,009.21

Income: Rs. 21,40730.50

Expenses: Rs. 13,22,855.00

Closing Balance: Rs. 33,54,885.69

A.3 List of Section Officer and Executive Committee Members

Prof. Sivaji Chakravorti	-	Chair
Prof. Debotosh Guha	-	Vice-Chair & Chair APMTT Chapter
Prof. Chandan Kumar Sarkar	-	Vice-Chair & Chair EDS Chapter
Mr. Sanjay Kar Chowdhury	-	Secretary
Prof.(Mrs.) Iti Saha Misra	-	Treasurer
Prof. K.K. Mallik	-	Immediate Past Chair
Prof. Rabindranath Nandi	-	Member
Mr. Kalyan Kumar Das Gupta	-	Member
Prof. Dipak Kumar Basu	-	Member & Chair Awards Committee
Prof. Rana Dattagupta	-	Member
Prof. Alak Kumar Das	-	Member
Prof. Nirmalendu Chatterjee	-	Member
Prof. Sujoy Basu	-	Member
Prof. Santosh Kumar Chowdhury	-	Member
Mr. Rabindra Nath Lahiri	-	Member
Mr. Tarak Kumar Bandyopadhyay	-	Member
Prof. Sujit Kumar Biswas	-	Member & Chair Educational Activity
Prof. Kesab Bhattacharya	-	Member
Prof. Mita Nasipuri	-	Member
Dr. Gargi Keeni	-	Member & Chairperson Professional Activities
Prof. Pradip Kr. Saha	-	Member
Prof. Niladri Chakraborty	-	Member
Prof. Susmita Sur Koley	-	Member & Chair WIE
Prof. Prasanta Kumar Basu	-	Member & Chair Membership Development
Prof. Ajit Kumar Chattopadhyay	-	Ex-Officio Member & Chair IA Chapter
Prof. Srikumar Mallik	-	Ex-Officio Member & Chair PE Chapter
Dr. Swarup Mandal	-	Ex-Officio Member & Chair COMSOC Chapter
Prof. Sarmistha Neogy	-	Ex-officio Member, Chair Computer Chapter
Prof. Bhaskar Gupta	-	Member & Chair Student Activities Committee
Prof. J.B. Roy	-	Ex-Officio Member, Chair Photonics Chapter
Dr. Jamuna Kanta Sing	-	Member
Prof. Salil Kr. Sanyal	-	Member & Chair CAS Chapter
Mr. Pallab Ganguly	-	Ex-Officio Member & Chair GOLD Affinity Group

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Programs

Total Member: 1761

- **Effort in Membership Development:** Recognising efforts of members in rendering services as a dedicated volunteer, recruiting new members as well as retention of existing members by awarding citations & personalized plaques. This Year Calcutta Section has recognised the efforts made by a member by awarding a personalized plaque. The award was given to Mr. P. Rajamani.
 - In the current year Calcutta Section has awarded two awards as a part of membership development program. The awards will be given in the following category: a) Chapter with highest membership growth & b) Chapter with highest percentage of member from industry. This year the recipient chapters are a) PES & b) Computer Society. The current Chapter Chairs will be given the award.
 - Calcutta Section has registered 6.8% rise in membership-up from **1649** to **1761** in 2011.
 - PES Chapter has awarded Prof. Samarjit Sengupta a very senior member from the academia, a personalized plaque recognizing his efforts for growth & sustenance of the chapter.
 - PES Chapter has conferred upon one of its active senior members the title of 'Outstanding Chapter Engineer' for the year 2011.
 - PES has recommended elevation of one of its members to Senior Member grade. Both the members have been duly elevated.
 - IAS Chapter has recommended elevation of three of its members to Senior Members grade. The member has been duly elevated.
 - PES has reported 33% rise in membership in the year 2011.
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- **Evidence of retention of members:** Each default member is contacted through email / mobile phone and persuaded to renew his / her membership. Attrition rate has come down corresponding to last year.

B.2 Professional and Continuing Education Activities

Continuing Educational activities including conferences, technical event, training courses:

Technical Lecture Meetings organized by the Section

IEEE Calcutta Section has organized the following lecture meetings in various fields in the year 2010. The lectures were well attended and organized at various institutes with very good interactions among the members of industry and academia including students.

a. Technical Lecture

<u>Sl.</u>	<u>Speaker & Affiliation</u>	<u>Topic</u>	<u>Venue</u>	<u>Attnd.</u>	<u>Date</u>
1	Prof. Hiroya Fujisaki, The University of Tokyo, 3-31-12 Ebisu, Japan	Speech Recognition & Synthesis Technology	JU, Calcutta	33	4 th . March, 2011
2	Prof. Sukumar Nandi of Department of	Network Layer Specific Attacks & their	St. Anthony's College,	121	5 th . March, 2011

	Computer Science & Engineering, IIT Guwahati	Detection Mechanisms	Shillong, Meghalaya		
3	Prof. Ravi Mokashi Punekar of Department of Design, IIT Guwahati.	Creativity in Interactive Designs	St. Anthony's College, Shillong, Meghalaya	121	5 th . March, 2011
4	Prof. Sivaji Chakravorti of Electrical Engineering Department, JU.	Lab vis-vis Matlab	NIT, Durgapur	92	28 th . March, 2011
5	Prof. N.K. Kishore, Department of Electrical Engineering, IIT Kharagpur.	Technology Directions	NIT, Durgapur	92	28 th . March, 2011
6	Prof. A.M. Roy of Electrical Engg Dept, NIT Durgapur	Power Engineering Overview	JIS College of Engineering, Kalyani, WB	123	19 th . August, 2011
7	Prof. Sujit Kr. Biswas of Electrical Engineering Department, J.U.	Power Electronics - Past, Present & Future	JIS College of Engineering, Kalyani, WB	123	19 th . August, 2011
8	Prof. L.M. Pattanaik, Bangalore	From Transistors to Teraflop Computing and Beyond	Silicon Institute of Technology, Bhubaneswar	110	10 th . September, 2011
9	Prof. B.M. Subraya of Mysore, Karnataka	Context dependent and Assesment Centric Educational Model for Rural India	Silicon Institute of Technology, Bhubaneswar	110	10 th . September, 2011
10	Prof. Ajit Kr. Chattopadhyay, Emeritus Professor, BESU, Shibpur.	Recent Advances in Power Electronics Technology	Jadavpur University, Calcutta	125	4 th . November, 2011
11	Mr. I. Bandyopadhyay of Haldia Institute of Technology, Haldia	Developing a Rule base for Using Current Concordia Patterns to identify faulty IGBT in Induction Motor PWM Drives.	Jadavpur University, Calcutta	125	4 th . November, 2011
12	Mr. Nilanjan Patra of NIST, Berhampore, Odisha.	Improved Sliding Mode Controller for Anti-lock Braking System	Jadavpur University, Calcutta	109	4 th . November, 2011
13	Ms. Sayanti Chatterjee of Netaji Subhas College of Engineering, Garia, Calcutta	Improved Fault Detection Scheme of an Aircraft Actuator	Jadavpur University, Calcutta	109	4 th . November, 2011
14	Mr. Subrata Biswas of Netaji Subhas College of Engineering, Garia, Calcutta	Identification of Power System Loading Topology Using Rough Set Theory Based Classifier	Jadavpur University, Calcutta	100	5 th . November, 2011

15	Dr. Ajay K. Chakraborty of NIT, Agartala, Tripura	PSO based Congestion Management in a	Jadavpur University,	100	5 th . November,
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		Deregulated Power System by Rescheduling of Generators & Demand Side Participation	Calcutta		2011
16	Mrs. Nandita Sanyal of B.P. Poddar Institute of Management & Technology, Calcutta	Application of Adaptive Bacterial Foraging Optimization Algorithm for Image Segmentation	Jadavpur University, Calcutta	100	5 th . November, 2011
17	Ms. Barnali Goswami of Narula Institute of Technology, Agarpara, Calcutta	Cloud Motion Prediction Using Mean path Adjustment Method From Satellite Infrared Images	Jadavpur University, Calcutta	100	5 th . November, 2011
18	Prof. D. Dutta of IIT Kharagpur	Passive Optical Networks: The Evolving Scenario	Techno India, Salt Lake	92	11 th . November, 2011
19	Prof. S.K. Sen of Deptt of Applied Physics, Calcutta University	Application of Fieldbus in Process Instrumentation and Automation	Techno India, Salt Lake	92	11 th . November, 2011
20	Mr. S.K. Deb, Addl. General Manager, BSNL, Calcutta Telephones, Calcutta	Unfolding Revolutionary Trends in Information & Communication Technology (ICT) - through Rings, Clicks into Convergence	Techno India, Salt Lake	103	12 th . November, 2011
21	Prof. R. Bera of Sikkim Manipal Institute of Technology	Concurrent Remote Sensing and Communication	Techno India, Salt Lake	103	12 th . November, 2011
22	Dr. N. Murugesan, Director General, CPRI, Bangalore	Operation of Interoperable Grid	Hotel Taj Bengal, Calcutta	194	24 th . November, 2011
23	Dr. P.V. Balasubramaniam, Addn. Director General, CPRI, Bangalore.	Integration of Renewable Energy Grid with National Grid	Hotel Taj Bengal, Calcutta	194	24 th . November, 2011
24	Dr. S.K. Mandal, Associate Professor, Electrical Engineering Department, NITTTR, Calcutta	Enhancement of Voltage Stability and Energy Efficiency by employing Distributed Generators in Existing Distribution Networks	R.N. Mukherjee Hall, The IE(I), Calcutta	157	25 th . November, 2011
25	Mr. Rudrendu Bose, Asstt. Director, WBREDA, Calcutta	Meeting Energy Demand of Non-Electrified Villages through Renewable Energy Resources	R.N. Mukherjee Hall, The IE(I), Calcutta	157	25 th . November, 2011
26	Dr. Biswanath Roy of Department of Electrical Engineering, Jadavpur University, Calcutta	Lighting System of a Thermal Power Plant - Energy Audit & upgradation: A case study	R.N. Mukherjee Hall, The IE(I), Calcutta	95	25 th . November, 2011
27	Mr. Vishwanath Gupta Department of Electrical Engineering, Jadavpur University, Calcutta	Modelling of Fuzzy Logic Based Energy efficient Integrated Lighting System.	R.N. Mukherjee Hall, The IE(I), Calcutta	95	25 th . November, 2011

28	Mr. Ramesh Patil, Central Power	Substation Automation for the Smart Grid	R.N. Mukherjee Hall, The IE(I),	100	25 th . November,
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	Research Institute, Bangalore.		Calcutta		2011
29	Dr. K.S. Meera, Joint Director, Central Power Research Institute, Bangalore.	Permissible Line Loading Analysis for Newly Proposed AL-59 Conductor for 220KV Transmission Lines	R.N. Mukherjee Hall, The IE(I), Calcutta	100	25 th . November, 2011

b) Technical Co-Sponsorship

IEEE Calcutta Section extended technical Co-Sponsorships to the following conferences falling under the jurisdiction of Calcutta Section.

- ICES at NIT Rourkela 2011 from 7th to 9th January, 2011.
- Scientific Paradigm Shift in Information Technology & Management from 5th to 6th January, 2011 organised by Institute of Engineering & Management.
- International Conference on Devices & Communication ICDeCom-2011 organised by BIT Mesra from 24th to 25th February, 2011.
- National Conference on Emerging Trends & Applications in Computer Science-2011 organized by St. Anthony's College, Shillong from 4th to 5th March, 2011
- National Conference on Future Trends in Information & Communication Technology & Applications organized by Silicon Institute of Technology, Bhubaneswar from 10th to 11th September, 2011
- IEEE PE Calcutta Chapter has also extended its technical co-sponsorship to the International Conference on Energy, Automation & Control organized by Siksha O Anusandhan University, Odisha, held on December 28-30, 2011.
- IEEE CIS Calcutta Chapter has also extended its technical co-sponsorship to the following conference: International Conference on Data Mining, Computational and Business Intelligence (DMCBI- 2012) to be held on 16-17 Feb, 2012 in Bhubaneswar, Orissa, India.
- Conference on Energy System Planning, Implementation and Operation (ESPIO-2011) at JIS College of Engineering.
- National Conference on 'Frontiers of Communication & Instrumentation Engineering'(COIN-2011) jointly with Techno India, Salt Lake, on 11th & 12th November, 2011 in Kolkata.
- 27th National Convention of Electrical Engineers jointly with The Institution of Engineers(I) on 24th & 25th November, 2011 at Hotel Taj Bengal Calcutta.
- International Conference on Recent Trends in Information Systems (ReTIS-2012) on 21-23 Dec 2012 organized by Computer Chapter.

EDUCATIONAL ACTIVITY

Two-day workshop on 'Soft-Skill Development' was organized by IEEE Calcutta Section in collaboration with HRM DEPT – BESUS with the support from IEEE R10 EAC 2011 on 15-16 July, 2011 in the Alumni Seminar Hall, BESUS, Howrah. Workshop Instructor was Mr. S.V.Raman, Former Program Director, Max Mueller Bhavan Kolkata. In the inaugural program the welcome address was given by Prof. Manas K Sanyal, Professor and Head, Department of HRM and Dean - Faculty of Social and Management Sciences, BESUS. The workshop instructor Mr. S.V. Raman was introduced by Prof. Sivaji Chakravorti, Chair, IEEE Calcutta Section. The workshop was structured in several sessions spanning two days. The final session was held solely for queries and clarifications from the participants. The Valedictory Session was chaired by Prof. Ajoy K Ray, Vice-Chancellor, BESUS. There were

1116 student participants in the workshop, out of which 21 were IEEE members. It was specifically targeted to non-IEEE members to attract them towards IEEE fraternity.

OUTREACH ACTIVITIES

EDS Chapter organized a series of one-day distinguished technical lecture sessions. Prof. Hiroshi Iwai spoke at the following locations:

- a) Department of Electronics & Communication Engineering, Aizawl, Mizoram on 7th. April, 2011.
- b) NERIST, Itanagar, Arunachal Pradesh on 9th. April, 2011.

EDS chapter also organized an 'International Symposium' at Gangtok, Sikkim on 12th. April, 2011.

EDS Calcutta Chapter Jointly with EDS Madras Chapter organised a workshop on 'Nanoelectronics' at SKP College, Tamil Nadu on 26 to 28th. December, 2011.

PES Chapter jointly with Birbhum Institute of Engineering and Technology organised 'National Conference on Modeling and Experimental Techniques in Electrical Engineering' at Suri Birbhum on 5th. & 6th. February, 2011. The conference has been aimed to provide a platform to promote the discussion and interaction in the recent development on Modeling and experimental techniques in electrical engineering to share the domain of new concepts, prototypes, research ideas and also the result of the research works will contribute and benefit the academic arena. Prof. Sivaji Chakravorti spoke on 'Lab to Matlab'. Prof. Amitabha Ghosh spoke on 'Scaling laws: Science of Miniaturization'

APMTT Chapter organized an Outreach Program of the chapter at the School of Electronics Engineering, KIIT (Kalinga Institute of Industrial Technology) University, Bhubaneswar on May 30, 2011. This is located at about 500 km away from Kolkata, that is, the office where from the chapter conducts its activities. Prof. Debatosh Guha, Chairman of the chapter met and addressed the local members along the students of the Department. This meeting was aimed to encourage them to participate in the chapter activities in different capacities and also to take active roles in the forthcoming International events to be held at Kolkata in December, 2011. Prof. Guha also gave a technical talk on modern Wireless Antennas describing the recent trends and developments in planar antenna technologies. This lecture was attended by about 30 participants, which includes 10 IEEE members/student members. Prof. A. K. Sen, Dean of the School of Electronics Engineering presided over the function. Chairman also met the Vice-Chancellor of the University to explore possibilities of organizing some events in the University Convention Center in the near future. The programme was attended by 20 participants.

APMTT Chapter conducted another Outreach Program at the ECE Department of National Institute of Technology Durgapur, about 192 km. away from the city of Kolkata that is the main office of the chapter. The program was in the form of One day Seminar addressing Antenna Technology and EMI issues. Prof. D. R. Poddar, *Jadavpur University* and Prof. D. Guha, *University of Calcutta* were the primary speakers. This event was aimed to encourage the faculty and students of this department. This chapter has got four new members this year from this department. Chapter Chair addressed the audience and met the IEEE members separately to discuss the possibilities of organizing some events in the industry city of Durgapur in the near future. The lunch was sponsored by Jyoti Electronics., Ahmedabad and Pinnacle Infotech. Pvt. Ltd, Durgapur. This program was attended by 49 numbers of participants out of which 8 IEEE members and 41 students were present

Celebration of National Science Day

This year IEEE Photonics Society Calcutta Chapter celebrated Indian National Science Day (Feb 28, 2010) on March 11, 2011. The objective is to popularize science and to create science-awareness among mass. School children of two selected schools (Salt Lake School and Loreto day School Sealdah) were invited to participate (free). The program started with an inaugural session introducing to the students the importance of the celebration and relevance of their participation. After that there was a long program on Demonstrations to show the basics of physics (including optics, Heat, Electricity and Magnetism) or chemistry through simple Models to help in understanding the subjects. There were also Models also on some practical circuits/projects. Students were accompanied by some teachers. All enjoyed the celebration and activities and requested for similar activities in future also. The event may also be termed as a Community event.

Summer Workshop on Analog Circuits (SWAC-2011)

Summer Workshop on Analog Circuits organised by Swami Vivekananda Institute of Science & Technology, Kolkata from 9th. to 11th. June, 2011, jointly with IEEE Calcutta Section.

INTERNATIONAL CONFERENCE (AEMC-2011):

The joint event of 2011 IEEE Applied Electromagnetics Conference (AEMC) and IEEE Indian Antenna Week (IAW) was held at Hyatt Regency Kolkata during December 18-22, 2011. This was organized by the IEEE AP-MTT Calcutta Chapter in association with UGC-NRCPS, University of Calcutta.

The joint event was attended by about 300 delegates from different parts of the globe including USA, Canada, Greece, UK, Spain, Germany, Turkey, South Africa, Japan, China, Malaysia, Hong Kong, Thailand, Singapore, and obviously, India. Participation of a large contingent of scientists and delegates from Indian Space and Defence Research Organizations is noteworthy.

Participants enjoyed nine tutorial sessions on Day 1 of the conference, offered by internationally acclaimed scientists, which included Raj Mittra, T. K. Sarkar, T. Takano, M. S. Palma, R. Garg, S. Pal, G. Kumar, J. C. Goswami, and K. Naishadaham. IEEE AP-S President (2011) Prof. Magdalena Salazar-Palma of the Universidad Carlos III de Madrid, Spain delivered the keynote address in the opening session on Day 2. Student Paper Contest was held on Day 2 with an overwhelming response and encouragement from the participants. Organized Sessions from ISRO-Bangalore, CEERI-Pilani, DRDO-Bangalore, RCI-Hyderabad, University of Cape Town, and the University of Syracuse were highly appreciated. An Industrial Exhibition, organized in the Ballroom of the venue hotel, was a special attraction to the participants. The exhibition was supported by Eleven Multinational Companies dealing with RF and Microwave Products. Dr. A. K. Bhattacharyya of Northrop Grumman Corporation, USA delivered a talk on "Floquet modal based analysis of phased array antennas and methods of beam synthesis" under IEEE AP-Society Distinguished Lecture Program. On Day 4, the participants enjoyed musical program followed by a banquet dinner while on cruise on river Ganges along the shores of the city of Kolkata.

A brief statistics of the conference is as follows: Tutorial Sessions - 9, IEEE AP-S Distinguished Lecture -1, Technical Session (contributory) - 18, Technical Session (special) - 7, Interactive Poster Session - 1, Student Paper Contest (poster) - 2, Industry Session - 1.

The 2011 IAW is financially sponsored by IEEE AP-Society. The conference was technically sponsored by IEEE AP-S, IEEE MTT-S, and URSI Commission B. Other major financial sponsors were UGC-NRCPS of the University of Calcutta, ISRO, DRDO, CSIR, DAE, Schlumberger-USA, and SVIST-Kolkata. The conference was also supported by Industrial MNCs from all around the globe, like FEKO, NEWFASANT, Agilent, SATCOM Technologies, CST, RADIALL, Microwave Vision Group, SIEPEL, MATSING Pte Ltd, ENTUPLE Technologies, and HCL Technologies.

NATIONAL CONFERENCE: CALCON-2011

The flagship national conference of IEEE Calcutta Section was held on 4th & 5th November, 2011 at Jadavpur University Campus jointly with CAS Chapter. In the inaugural session Prof. A.K. Chattopadhyay, Fellow, IEEE delivered Keynote address on 'Recent Trends in Power Electronics Technology'. Mr. Ashish Ghosal, Director(Projects) delivered lecture on 'Pumped Storage Power Station' in the Plenary session. In the concurrent technical program by CASS Chapter, three invited talks were delivered. In all 153 delegates participated in the two day event. 12 technical sessions were held and 58 paper were presented. The event was sponsored by WBSETCL, WBSEDCL, Supreme Co and Intec Infonet.

National Seminar: Powering India by 2020: A Roadmap to Greener India

27th National Convention of Electrical Engineers and National Seminar on the theme "*Powering India by 2020: a roadmap to Greener India* ", a 2-day event , was held on 25-26th November, 2011 in Kolkata in association with Central Power Research Institute, Bangalore and with technical collaboration with IEEE, Calcutta Section. The Institution of Engineers(I), WBSC were the main organizers.

The Inaugural Session held at the Crystal Room of Hotel Taj Bengal, was attended by Sri Archan Kusum Majumdar , Chairman of West Bengal State Centre, Sri Vimal Prakash , Chairman of Electrical Engineering Division Board, Sri. T.N. Thakur, Chairman- PTC Ltd. (Power Trading Company Ltd.) was the Chief Guest amongst others. As Chairman of the Organising Committee, Sri A.K. Majumdar welcomed the guests and recounted different activities of the Institution and the need for the annual Convention for each Division. Sri Gautam Ray, apprised the dignitaries and the delegates about the highlights of the Convention viz. technical exhibition, MS Thacker Memorial Lecture, State of the Art Lecture, Technical Sessions, Panel Discussion and Concluding Session, besides the cultural programme in the evening for the delegates. The opening session was attended by more than 160 delegates from different industries.

B.3 Students Activities

Number of Active Student Branches: 18

Number of Student Branches Formed in the Year: 03

Total Active Student Member: 770

Total Active Graduate Student Member: 218

- **Active Student Branches activity**

IIIT Bhubaneswar

Adding a fresh vision to its arena IIIT Bhubaneswar organised a one-day function to inaugurate its student branch of IEEE society. The whole celebration started with a very awe-inspiring aura, an enlightening speech by the Dean Prof. Ajit Kumar Das and Guest of Honour, Prof. Sudarsan Padhy. Our honourable chief guest Dr. Sivaji Chakravorti paramounted his words of wisdom and his solemn remarks towards students, and his indelible respect for the bond between a teacher and a disciple. His tranquil and proficient persona amazed everyone. Prof. S. Chakravorti, Chair Calcutta Section laid down a strong foundation of the branch and gave a brief introduction to 'What it means to be an IEEE member'. He delivered a talk on "LAB TO MATLAB", which highlighted the steps to be a perfect professional engineer throwing light on PBL (Problem Based Learning). He also launched our first newsletter "NIeeeWS". Prizes were awarded to the winners of various events like technical paper presentation, quiz and Techno Hunt held

by IEEE student branch. Amidst everything no one can alter the fact that the function was a great success.

Calcutta University Student Branch - Science and Technology Exhibition 2011 (STEX-11)

The IEEE Calcutta University Student Branch organised a Science and Technology Exhibition -2011 (STEX-11) on September 09, 2011 at the Institute of Radio Physics and Electronics of the University of Calcutta. This is the second of its kind organized by the student Branch. It is an exhibition cum competition of Models on Science and Technology. The students of different colleges and universities are invited to exhibit their models in this event. This time a large number of students from different Institutions registered and participated with their models. There were in all 25 (twenty five) models presented by students (not more than four students per Model) of Institutions like Scottish Church College, Ramkrishna Mission Residential College (Narendrapur), Dr. Sudhir Chandra Sur Degree Engineering College, ABACUS Institute of Engineering and Management, Swami Vivekananda Institute of Science and Technology, Bengal Engineering and Science University, University of Calcutta, A. P. C. Roy Polytechnic (Jadavpur), etc. The models were open for exhibition and were evaluated by a number of judges. The best three Models were awarded with Trophies and certificates. The topper was a Model on "Gas Activated Alarm" by a group of 4 students (girls) from Dr. Sudhir Chandra Sur Degree Engineering College. The second and third prize went to a group from the Swami Vivekananda Institute of Science and Technology, and a group from the University of Calcutta respectively. Certificates were distributed to all the registered participants of Models. The full enthusiasm of the hosting and participating students throughout the day reflected the grand success of the event.

National Institute of Technology Durgapur (ICET-2011)

International Conference on Emerging Technologies (ICET-2011) was organized by NIT Durgapur Student Branch on 28th -31st March, 2011. The following invited talks were delivered in addition to large number of technical papers. I) "Lab vis -a-vis Matlab" by Prof. Sivaji Chakravorti, ii) "Technology Directions" by Prof. N K Kishore, iii) "Greatest Innovations" by Prof Bhaskar Gupta, iv) "Wireless Sensor Network" by Prof V. Rao and "Managing ICT" by Mr. Vijay Debnath. The program was attended by student members of NIT Durgapur and also quite a large number of students from other institutes.

Silicon Institute of Technology, Bhubaneshwar

SIT SB celebrated the IEEE Day on 18.10.11 by organizing the following events:

1. A lecture session on Embedded Systems and Status of Electronic Products by Guest Faculty, Professor Hare Krishna Patnaik.
(Professor Patnaik successfully completed his graduation in Electrical Engineering from NIT, Rourkela in the year 1971. He did his MSEE in Control from IIS, Bangalore. Mr. Patnaik is presently the CEO of HP Microsystems Pvt. Ltd. Michigan, USA.)
2. Inauguration and release of a book on Basic Electrical Engineering by Professor Hare Krishna Patnaik. The book was authored by IEEE member Professor R.P Panda.
3. Induction program for new IEEE members for the session 2011-12.

- **Recruitment of student members**
Students from all branches have been recruited as Student Member all over the year. Present strength of Student Member stands at 988 taking into account both Graduate Student Member and Student member.
- **Lecture Meet:**
Jadavpur University Branch organized a Lecture meeting on 'Cell Cycle Phase Identification' by Prof. K. Palaniappan.
Jadavpur University Branch organized MEET-2011, a one day workshop jointly with Computer & ComSoc Chapters on 17th. December, 2011.
- **Formation of New Student Branch**
Three new student branches were opened at a) Institute of Technical Education and Research, Bhubaneswar, b) International Institute of Information Technology – Bhubaneswar and c) Heritage Institute of Technology Electron Devices Society Student Branch Chapter.
Petition for formation new IEEE Student Branch at Sikkim Manipal Institute of Technology has been forwarded to the IEEE Headquarters.

B.4 E-mail and Newsletter Activities, Home Page

- **Number of hard print Newsletter:** Discontinued from 2010
Number of electronic Newsletters: 02. Circulated to all members in April'11 & August'11. Also posted on Section website
- **Section, Chapters and Student Branches Web Pages:**
 - A newlook website for IEEE CALCUTTA SECTION has been launched in May'11 and is active with address - www.ewh.ieee.org/r10/calcutta
 - Section and some of the Chapters have websites linked mutually. The
 - All announcements / activities are uploaded in the website regularly.

B.5 Awards & Accolades:

- ✓ PES Chapter received 'High Performance Chapter' Award for 2010 from IEEE PES headquarters.
- ✓ IAS Chapter received 'Continuing Outstanding Small Chapter' Award for 2010 from IEEE IAS headquarters.

B.6 Chapter Activities

Total Active Chapters: 09

Total Affinity Groups: 02

- APMTT chapter organized a One day Seminar on Topic' Electromagnetic Interference and Electromagnetic Compatibility, Speaker: Prof. D. R. Poddar, Emeritus Professor, ETCE Dept., Jadavpur University Topic : A New Technique for Printed Antennas Speaker: Prof. D.Guha, Institute of Radiophysics and Electronics, University of Calcutta Venue: ECE Department Seminar Hall (2nd Floor), NIT Durgapur, Durgapur on 7th. March, 2011.
- APMTT chapter organized a Summer Workshop cum Tutorial on "Antenna and Microwave Teaching: New Thoughts and Challenges" in association with the Institute of Radio Physics and Electronics, University of Calcutta (under UGC-

NRCPS) during June 13-17, 2011. This weeklong event was held in the CRNN (Centre for Research in Nanoscience and Nanotechnology) premises of the University of Calcutta, located in Salt Lake City, Kolkata. The workshop was planned to enhance the skill of teachers imparting education in the field of antenna and microwave engineering. This attracted a good number of young faculties. About 35 candidates below 35 from different universities and engineering institutes located in the geographical jurisdiction of IEEE Calcutta Section attended this workshop. About 14 senior Professors and Scientists acted as resource persons. The whole technical hours were planned with a nice blend of tutorials and training sessions. Visit to SAMEER Calcutta Center was highly appreciated by the participants. Apart from the compact antenna test range, several design and fabrication aspects relating to millimeterwave devices were nicely described by Center Head Mr. Arijit Majumder. Dr. D. C. Pande, Director (Technical), DRDO gave a technical talk and encouraged the participants. Prof. D. Chattopadhyay, Pro-Vice-Chancellor for Academic Affairs, University of Calcutta presided over the inaugural session on the first day.

- APMTT chapter organized a One day Seminar on 'A History/Chronology of Broadcasting' Speaker: Prof. Magdalena Salazar Palma, IEEE AP-S President 2011, Universidad Carlos III de Madrid, Spain Topic: RFID Standards, Speaker: Prof. Tapan K Sarkar, Syracuse University, USA Venue: Bengal Engineering and Science University, Shibpur, Howrah on 10th. March, 2011.
- APMTT chapter organized a visit for the students of different schools around Calcutta. The students were taken to Birla Institute and Technological Museum (BITM), Kolkata, a wonderful place to experience the magic of science and technology. Eighty five students in classes VIII to X and ten teachers from five different schools -Ananda Ashram Vidhyapith, Narkeldanga School, Beliagata Shanti Sangha, Kamala Girls, Kali Kamala School took part. Bus service and lunch were provided. The programme was organised in collaboration with WIE.
- APMTT Chapter organised a One Day Program 'School Program for 90 VIII to X students' involving school students. The programme was jointly organised with WIE, IEEE Calcutta Section on September 3, 2011.
- AP-MTT Chapter organized Lecture meetings on
 - a) 'Some Examples from Data Acquisition, Processing, and Transmission Systems in Well-Logging Industry' Speaker : Dr. Jaideva C. Goswami, Schlumberger, U.S.A. on 6th. January, 2011.
 - b) 'High Power Microwave Devices: Challenges and Opportunities for Young Engineers in India', Speaker : Dr. S. N. Joshi, CEERI-Pilani, INDIA on 25th. January, 2011.
 - c) 'A New Technique for Printed Antennas', Prof. D. Guha, University of Calcutta India on March 7, 2011.
 - d) 'Experience in working with Large Antennas for Deep Space Application'. Mr. Chandrakanta Kumar of ISRO delivered lecture. The lecture meet was held at IRPE, Calcutta University on 13th. April, 2010.
 - e) 'Antenna Technology: Challenges and Developments', Prof. D. Guha, University of Calcutta India on May 30, 2011.
 - f) 'Monolithic Microwave Integrated Circuits: Design & Interconnects' Mr. Arijit Majumdar of SAMEER delivered the lecture. The meet was held at Heritage Institute of Technology on 23rd. September, 2010.

- PES Chapter jointly with Birbhum Institute of Engineering and Technology organised 'National Conference on Modeling and Experimental Techniques in Electrical Engineering' at Suri Birbhum on 5th. & 6th. February, 2011. The conference has been aimed to provide a platform to promote the discussion and interaction in the recent development on Modeling and experimental techniques in electrical engineering to share the domain of new concepts, prototypes, research ideas and also the result of the research works will contribute and benefit the academic arena. Prof. Sivaji Chakravorti spoke on 'Lab to Matlab'. Prof. Amitabha Ghosh spoke on 'Scaling laws: Science of Miniaturization'.
- PES jointly with Dept of Applied Physics C.U. organized a one day National Seminar on 'Industrial Communication - Recent Trends' on 19th. February, 2011 at Rashbehari Prangan, C.U. Prof. Mr. Pulak Halder delivered lecture on 'Real Time Communication for Aerospace Systems and its Simulation'
- PES chapter organised the following lecture meetings:
 - 'Power Electronics in Power Factor & VAR Management'. Prof. Sujit Kr. Biswas delivered the lecture in the Seminar Room of Electrical Engineering Department J.U. on 6th. August 2011.
 - 'Commonly Used Protection System for Generator, transformer & Transmission Line'. Mr. Ashis Mandal Sr. Divisional Engineer of Damodar Valley Corporation delivered the lecture on 24th. October, 2011 at Electrical Engineering Department, J.U.
- PES jointly with Department of Applied Physics, C.U. organised seminar on "Condition Monitoring of Electrical Equipment ", at Rashbehari Shiska Prangan, C.U. on 16th December 2011. Mr. Sanjay Kar Chowdhury of CESC Limited delivered lecture on 'Advanced Diagnostics of Power Transformers' while Prof. Prithwiraj Purkait of Haldia Institute of Technology spoke on 'Condition Monitoring of Electric Motors'.
- PES organized Distinguished Lecture Programme on 'Interaction Between the Existing Infrastructure and a Future Smart Grid with Distributed Generation' on 12th. December, 2011 at J.U. Prof. George Karady, a PES Distinguished Lecturer and Power System Chair, School of Electrical Computer & Energy Engineering, Arizona State University, USA conducted a half day session on the topic. The workshop was attended by over 120 participants from academia & industry.
- EDS Chapter organized a technical Lecture Program jointly with CRNN, C.U. & Photonics Chapter on 14th. April, 2011. Prof. Hiroshi Iwai spoke on 'Past and Future of Micro/nano-Electronic Devices'.
- EDS chapter organized a one day Student paper Conference jointly with Heritage Institute of Technology, Kolkata on 18th. April, 2011.
- EDS chapter organized a one day distinguished lecture session on 'BEYOND MOORE'S LAW, TECHNOLOGIES & ARCHITECTURES' on 17th. October, 2011 at Heritage Institute of Technology, Calcutta. Prof. Pinaki Majumdar & Prof. Deb Kumar Pal delivered lectures on the subject.
- The IA Chapter organized a 3 day Short Term Training Course on "Power Electronics Applications in Industry' on & from 4th. to 6th. February, 2011. The course included lecture sessions and hands on demonstration sessions including simulations and experiments. The lecture sessions were mostly delivered by teaching faculties of BESU and one renowned invited speaker, associated with a reputed Kolkata-city based R&D company (all speakers were IEEE members &/or Life Fellow). Several other IEEE members, teachers from academia,

industry personnels and students at large from various engineering institutes, both at undergraduate and postgraduate levels, attended the programme. The feedback from the participants seemed extremely encouraging.

- IAS Chapter organized Technical Lecture sessions on:
 - a) 'Natural Harmonic Elimination of Square-Wave Inverter for Medium-Voltage Application' by Dr. Gautam Poddar, Associate Professor, IIT Kharagpur, India on 1st. February, 2011 at BESU, Shibpur.
 - b) 'ABB's experience with VSC based HVDC and the importance of real-time simulation'. Dr. Pinaki Mitra on 19th. August, 2011 at BESU, Calcutta.
 - c) 'Energy Scenario in Steel Plants' by Mr. Manish Sinha of M.N. Dastur & Co. on 29th. July, 2011 at BESU, Shibpur.
 - d) 'Industrial Automation – Let's Break The Myths by Ms. Dola Ray of WEBEL Automation on 24th. August, 2011 at BESU, Shibpur.
 - e) Electric, Hybrid and Fuel Cell Vehicles by Dr. Kaushik Rajashekara, Chief Technologist, Rolls Royce Corporation, Indianapolis, USA on 17th. October, 2011 at R.N. Mukherjee Hall, The Institution of Engineers(I), Calcutta
 - f) 'Process Automation in Steel Plants' by Mr. Ram Kumar Bhattacharya of M.N. Dastur & Co. on 16th. November, 2011 at BESU, Shibpur.
- CIS Chapter organised a technical seminar on February 9, 2011 at Jadavpur University. In this well-attended seminar Prof. Roberto Barogona of University of Rome, Italy talked about "Structural Breaks in Time Series".
- CIS Chapter also organised a one-day workshop on "Computational Intelligence in Brain-Computer Interface and Context-Aware Service Management", on March 14, 2011. This event was organized jointly with Indian Statistical Institute. Two distinguished researchers, Prof. Chin-Teng Lin, Fellow IEEE, Director, Brain Research Center, National Chiao-Tung University, Taiwan and Prof. Amit Konar, Jadavpur University spoke about some recent advances in brain computer interface/interaction along with various issues that demand attention from researchers. The effective role of computational intelligence tools for the advancement of research and development in this area, was also highlighted through various applications. To make it self-contained the workshop started with an introduction to computational intelligence. The workshop was attended by more than eighty participants including students, researchers, and professors from different universities and colleges.
- IEEE CIS has organised a Distinguished Lecturer programme by Prof. K. C. Tan, Department of Electrical and Computer Engineering, University of Singapore. The topic of the lecture is "Advances in Evolutionary Multi-Objective Optimization". During the visit of Prof. Tan, a winter school titled "Winter School on Advances in Computational Intelligence: Algorithms and Application", December 26-27, 2011 will be organized at Bhubaneswar. The winter school is organized jointly by the Calcutta Chapter of the IEEE CIS and the Institute of Technical Education and Research (ITER), SOA University, Bhubaneswar.
- COMSOC Chapter, organized a one-day One Day Educational Programme: CALCOM 2011 on Advances on Mobile Computing & Bluetooth Communication on 26th. March, 2011 at Narula Institute of Technology, Calcutta. Mr. Sunirban Ghosh of IBM and Mr. Pinaki Sengupta of WIPRO Calcutta delivered lecture on the subject.
- ComSoc organized the following technical lecture sessions:
 - a) 'Practical Aspects of Wireless Convergence and its Mass Acceptance' by Mr. Santosh Nath on 12th. July, 2011 at Narula Institute of Technology'.

- 'A decade of Wireless Sensor Network research - Are we there yet?' by Mr. Sanjay Jha of School of Computer Science and Engineering, Sydney, Australia on 13th. June, 2011 at J.U.
- Computer Chapter organized technical lectures on:
 - a) 'A sneak-peek at Data-driven products, Infrastructure and Technologies at LinkedIn by Dr. Bhaskar Ghosh of LinkedIn of USA on 6th. May, 2011 at Computer Engineering Department, J.U.
 - b) 'High Performance Computing in Processing of Financial Market Data' by Rajiv Shukla of Morgan Stanley of USA on 25th. August, 2011 at Computer Engineering Department, J.U.
 - c) 'Mentoring and Value-Added Teaching and Research' By Mr. Sajal Das of Arlington, USA on 16th. December, 2011 at Computer Engineering Department J.U.
 - d) 'Cloud Computing: Performance, Service Level Agreements and Revenue' by Prof. Shikharesh Majumdar of Carleton University, Ottawa Canada. On 21st. December, 2011.
- Circuits And Systems (CAS) chapter organized CALCON-2011 jointly with Calcutta Section on 4th. & 5th. November, 2011 at J.U. campus.
- CAS Chapter organised 3 technical lectures on :
 - a) 'Some aspects of MIP/MPLS Based Integrated Framework for Next Generation Networks by Mrs. Chandi Banerjee of Meghnad Saha Institute of Engineering on 9th. November, 2011 at ETCE Department J.U.
 - b) 'EDA for VLSI Design' by Mr. Debasish Chakraborty of ECE Department , Future Institute of Engineering & Management on 18th. November, 2011.
 - c) 'A Simple circuit Model showing Feature-rich Bogdanov-Takens Bifurcation' by Mr. Shovan Datta of ETCE Department , J.U. on 18th. November, 2011.
 - d) 'Some aspects of a class of Mobile Ad-hoc Networks (MANETs) with Efficient Routing, Mobility/Interface Modeling & Improved Clustering Schemes' by Mr. P. Venkatweswaran of ETCE Department, J.U. on 23rd. November, 2011
 - e) 'Genetic Programming for Automatic Modulation Classification in Software Defined Radio' by Prof. Ashok Nandi of The University of Liverpool, Brownlow Hill, Liverpool UK on 9th. December, 2011.
- Photonics Chapter organized technical lectures on:
 - a) 'Modeling of Light Emitting and Laser Diodes' by Jayanta Sarma of Bath University, UK on 6th. April, 2011.
 - b) 'Future of Nano CMOS Technology' by Prof. Hiroshi Iwai of Tokyo Institute of Technology on 14th. April, 2011.
 - c) 'Optical Networks and its device components' by Prof. Partha P. Sahu of Tezpur Central University on 25th. May, 2011.
 - d) 'Sustainability through Small-World Networks: Revisiting the Multi-Core' by Dr. Partha Pratim Pande of School of Electrical Engineering and Computer Science, Washington, USA on 21st. June, 2011.
- Communication Chapter(ComSoc) organized lectures on:
 - a) A decade of Wireless Sensor Network research - Are we there yet? by: Dr. Sanjay Jha, Network Research Lab School of CSE, University of New South Wales Sydney, Australia on 13th. June, 2011 at Deptt of CSE, Jadavpur University, J.U.
 - b) Practical Aspects of Wireless Convergence and its Mass Acceptance by: Mr. Santosh Nath of Nucleus Mind Technologies, Kolkata on 12th. July, 2011 at Narula Institute of Technology, Kolkata.

- c) An Energy Efficient Quality Adaptive Multi-Modal Sensor Framework for Context Recognition By:Dr. Nirmalya Roy, PhD Research Scientist, Institute for Infocomm Research (I2R), Singapore & Technical staff member - INSPECH Healthcare Program - I2R on 24th. October, 2011 at Deptt. of CSE, Jadavpur University.
- Communication Chapter(ComSoc) organized an Educational Program: IEEE CALCOM 2011, jointly with Dept. of ECE, Narula Inst. of Tech., Kolkata on 'Advances in Mobile Computing and Bluetooth Communication' on 26th.March, 2011 at Seminar Hall, Narula Inst. of Tech., Kolkata. 170 delegates took part in the event
 - WIE organised an industrial tour for Engineering students of St. Thomas College of Engineering & Technology and CIEM, Tollygunj at Vikram Solar Plant, Falta SEZ on 28th. February, 2011. The students and their teachers were taken around to assembly floor for solar panels, control room with electronic equipments for distribution of electricity from solar panels and the research laboratory. The enthusiastic engineers-in-the-making had an exposure to Green Energy.
 - WIE organised a day-long outreach program on science awareness for high school girls from Deopara Chapamani High School and Kotulpur Sarojbasini Balika Vidyalaya in Bankura District on 29th. March, 2011. More than 100 school girl students, few science teachers from these schools and some of WIE members participated at the Bardhaman District Science Centre. Following the visit, there was an essay contest on their experience among the students and the 1st and 2nd place winners were given.
 - WIE organised 'Diminishing the Digital Divide' a computer awareness program for Mothers and guardians of students of science and engineering was held at the Computer Centre of the Indian Statistical Institute, Kolkata on 29th. May, 2011. 25 participants were provided the facilities, and 10 research scholars of ISI delivered hands-on training to them on how to use the PC, Windows, MS WORD and EXCEL, Internet browsing, email, basics of ecommerce for air/rail ticketing.
 - WIE organized a visit for the students of different schools around Calcutta. The students were taken to Birla Institute and Technological Museum (BITM), Kolkata, a wonderful place to experience the magic of science and technology. Eighty five students in classes VIII to X and ten teachers from five different schools -Ananda Ashram Vidhyapith, Narkeldanga School, Beliaghata Shanti Sangha, Kamala Girls, Kali Kamala School took part. Bus service and lunch were provided. The programme was jointly organised with APMTT Chapter on 3rd. September, 2011.
 - WIE conducted a one day Sangamam program on 'Health awareness and check-up' at Pratyush, in Barasat, West Bengal for the upliftment of downtrodden children and women on 15th. October, 2011. Fifty-five children ranging from 6 to 18 years along with their parents (20 adults) were present. Two doctors from All India Hygiene and Public Health, Kolkata and the other two from Calcutta Medical College were invited to provide respectively hygiene education and health check-up with some medicines and referrals for serious ailments.
 - Prof. Probir. K. Bondyopadhyay of Houston, Texas delivered an excellent and inspiring talk entitled "Violin and Genesis of the Bose Institute" at the historic auditorium of Bosu Vigyan Mandir, Kolkata. He unraveled the history behind the genesis of Bosu Bigyan Mandir and the role of the violin and women pioneers in accomplishing the great task of establishing India's first interdisciplinary research institute for science and technology.

- GOLD AG organised ReTIS-2011 during 23rd. & 24th. December, 2011 at Jadavpur University, Calcutta. GOLD AG organized technical Lecture on:
 - a) 'Tutorial on Advance Network and Network Security' by Mr. Pallab Ganguly, CESC Ltd. on 06/08/2011 at Techno India College, New Town, Rajarhat.
 - b) 'National Seminar on Datacenter, Information Security and Safe Computing' by Mr. Bratin Ghosh, CESC Ltd. on 12/11/2011 at Dreams Institute of Technology, Calcutta.
 - c) Cloud Technology: Hype to Reality by Dr. Sourav Dutta, IBM , Kolkata on 03/12/2011.

PART C – GOALS AND PLANS

C.1 Goals

- Retention of existing members through membership development programs like elevation to Senior Member grade, recognizing the efforts of active members by awarding them citations or personalized plaques.
- Increasing activities of section by arranging more lecture meetings, not necessarily technical but also on public affairs, professional activities, educational trips for students to nearby industries.
- To spread the message of IEEE within the geographical area under the jurisdiction of Calcutta Section.

C.2 Implementation Plans

- Institution of awards in the following category:
 - a) Best Chapter Award based on Yearly Activity.
- To organize one day program involving all Branch Counsellors from all student branches.
- To organize one day excursion programs involving students and also Student Paper Contest

PART D - OTHERS

D.1 Relationship with National Societies

- The relationship with National Societies like The Institution of Engineers (India), The Institute of Electronics & Telecommunication Engineers India, Computer Society of India is cordial.
- Secretary of Calcutta Section is also the Jt. Convenor of Electrical Division of The Institution Of Engineers (India)

D.2 Special Events

CALCON –2011 in November 2011.

D.3 Concern areas and suggestions

- ✓ Inactive Student Branches- explore for re-opening through incentive schemes

- ✓ Non-renewing members – persuasion for timely renewal.