

Region 10 Madras Section Report

PART A - SECTION SUMMARY

A.1 Executive Summary –

❖ Section Executive Committee Member List

Sl.No.	Name	Position
1	Dr. P. A. Manoharan	Chairman
2	Dr. M. A. Atmanand	Immediate Past Chair
3	Mr. S. Sundaresh	Vice Chairman
4	Dr. T. Micheal N Kumar	Secretary
5	Dr. V. Jayaprakasan	Treasurer
6	Dr. N. Kumarappan	Member
7	Dr. R. Venkatesan	Member
8	Dr. S. Joseph Gladwin	Member
9	Dr. D. Devaraj	Member
10	Dr. R. Hariprakash	Member

❖ Section Highlights

➤ 2019 IEEE MINI POCO (Panel of Conference Organizers)

IEEE Madras Section has organised a Panel Of Conference Organizers (mini POCO)-2019 on 22nd June 2019 at Manakula Vinayagar Institute of Technology, Pondicherry. This event was conducted for the benefits of the IEEE Members, Volunteers, Academicians and Industrialists who are interested to organize quality IEEE Conference by understanding the IEEE Conference Policies. The Inaugural Function of mini POCO was conducted at 9:30 A.M. Dr. D. Devaraj, Excom. Member, IEEE Madras section welcomed the gathering. The event was inaugurated by Shri. M. Dhanasekaran, Chairman & Managing Director, SMVE Trust. In his inaugural address, stressed the importance of adhering to the IEEE polices to maintain the quality of the IEEE conference.

The event had seven sessions. The speaker for the first session was a presentation on Presentation on “Conference Proposal Submission and Planning by Dr. D. Devaraj, Chair, Education Activities, IEEE Madras Section.. The next session was handled by Dr. P Manoharan, Chair, IEEE Madras Section on "IEEE conference Approval & Administration using Chronicle Manager”. In his presentation, he highlighted the various steps to be followed in successfully organizing a conference. This was followed by Dr. V. Jayaprakasan , Treasurer, IEEE Madras Section on “Budgeting & Funding Opportunities” and then ended the forenoon session by Dr. Dhanukumar Pattanashetti, Client Services Manager, IEEE India Operation Centre Bangalore, on “IEEE Xplore Digital Library : Delivering Research Better Than Ever.

In the afternoon a Presentation on “Paper Preparation and Peer Review” by Dr. Chittibabu, IITDM, Chennai. Followed by Best Practices adopted in Conference Organization”- Presentation from selected SBs. The event ended with “Interactions on Conference approval and Conference organization” Dr. T. Michael M Kumar Secretary, IEEE Madras Section. The Participants expressed satisfaction about this one day event. The Valedictory function was conducted, thanked the gathering for their participation. and distributed the certificates to the participants.

➤ IEEE Day 2019:

IEEE Madras Section conducted its Annual Meet on 3rd Nov 2019 at Alumni Centre Hall, Anna University, Chennai. In this around 70 members attended the meeting. The Chairman welcomed all the members, in his speech, he briefed about the activities of the section like conducted Student Paper Contest, , Student congress, International conference on “Smart Cities” in collaboration with IIT, Madras, Student Reach-out

program for students, Conducted the programs for section societies as Cluster -1 2 & 3. To motivate the members certificate of appreciation C were given to the contributors.

➤ **IEEE Student Branch Officers' Meet:**

The IEEE student branch officers meeting was held on 12th October 2019 at the Tirunelveli. The meeting was organized for the student branch counselors and chairpersons of all the educational institutes under the IEEE Madras section. Representatives from various colleges which have active IEEE student branches participated in the meeting. The meeting was formally inaugurated by Dr. P. A. Manoharan, Chairman, Madras Section. Dr. P. A. Manoharan welcomed all the participants and the officials from the IEEE Madras section. He also presented the activities of Madras section.

The student branch activities were presented by Dr. T. Michael N. Kumar, Secretary, IEEE Madras section. Dr. D. Devaraj, EAC, Chair, Sub-committee, IEEE Madras presented the benefits of IEEE membership to students. He mentioned the fee reduction for IEEE student members for attending IEEE sponsored workshops and conferences. He also outlined the benefits for student members in the form of online resource centers, professional certificate programs through online learning, continuing education units (CEU). Dr. D. Devaraj also touched upon the various competitions available for IEEE student members such as Mobile Application Development Contest (MADC) and encouraged students and student branch counselors to submit humanitarian project proposals. Mr. Ashwant, Treasurer, YP, Madras Section spoke about the Website Development for SBs. Followed by that Mr. Darpan, IEEE Volunteer spoke about the Volunteering with IEEE.

Finally, the student branch representatives from various institutes were requested to present the activities carried out under IEEE sponsorship in their parent institutes. Eight institutions presented a brief account of the student branch activities which included workshops, conferences, short-term training programs (STP) and humanitarian out-reach activities in other schools. The humanitarian projects are targeted to provide solutions to problems faced by normal civilians in their day to day life. The Student Branch Officers meet – 2018 provided a platform for counselors from various educational institutes to interact with each other and share their experiences as office bearers of the student branch. At the outset, the student branch meet provided encouragement, inspiration, and motivation for all the student branch representatives to take back to their respective institutes and enhance the role of IEEE student branch in their parent institutes. Competition for the participants were held and the program ended with Valedictory function.

➤ **IEEE Student Congress 2019:**

IEEE Madras section has organized the IEEE Student Congress 2019 on 20th & 21st September 2019 at SRM Institute of Science and Technology, Kattankulathur. The theme of the congress is "EMPOWERING YOUTH THROUGH TECHNOLOGY". The inaugural function was conducted at 10:00 AM on 21st September. Dr. D. Devaraj, Chair, Student activities and co-ordinator of the event welcomed the gathering and briefed the objective of the student congress to the participants. Dr. P.A. Manoharan, Chairman, IEEE Madras Section during the presidential address highlighted the various activities conducted by IEEE Madras Section for the students community. The event was inaugurated by Mr. S. Srinivasan, Vice-President & Head, Power Transmission and Distribution, Larsen & Toubro. In his inaugural address, Mr. S. Srinivasan briefed the students about the skills to be acquired to succeed in engineering industries and motivated the students to identify the challenges in the community, and develop economical solutions to those issues. Dr. Sandeep Sancheti, Vice Chancellor, SRM IST released the proceedings of the event. During his special address, he highlighted the recent technological development in field of computing and communication and avenues for the student's community. Dr. C. Muthamizhchelvan, Director (E&T) SRM IST and Dr. K. Vijayakumar, HoD/EEE, SRM IST honoured the guests.

- In this event, special lectures were delivered by experts on the following topics
- Student Funding opportunities and competitions in IEEE by Dr. D. Devaraj
- Hardware In Loop by Mr. Solikutty Dhanapal
- Electric Vehicle Technology by Mr. M.P. Prasad
- Entrepreneurship and Innovation by Dr. Chandrasekhar Menon.

As a part of the event three half day workshops were organized on i) AI and Machine Learning ii) Hardware in the Loop iii) Internet of Things. The event also had project contest in which the students have show caused their innovative products. The Valedictory function of the congress was conducted on 21st September at 4:00 PM. Dr. Chandrasekhar Menon delivered the valedictory address and distributed the prizes to the winners of the project contest. The Chairman Dr. P A. Manoharan, the Vice - Chairmen Mr. S. Sundaresh, the Secretary Dr. T. Micheal N Kumar, the Treasurer Dr. V. Jayaprakasan and Execom members of the IEEE Madras Section were present in the valedictory function. Dr. M. Sangeetha IEEE SB counselor delivered the vote of thanks.

➤ **Students Paper Contest (IEEE MAS SPC-2019):**

IEEE Madras section with the objective of providing an opportunity to showcase the unique contributions and innovations of UG and PG students is planning to organize the IEEE Madras Section paper contest on 31st August 2019. In this regard, the Madras section hosts this prestigious event. Being one of the leading engineering colleges in Tamil Nadu, has an active student branch at Kongu Engineering College. The Students Paper Contest (IEEE MAS SPC-2019) contest provides an opportunity for the students to showcase their contributions and innovations and also to interact with fellow students, senior academicians and industry professionals.

➤ **Student Project Funding:**

In order to encourage technology advancements, Creativity and innovation project proposals were invited from all the Student branches of the Madras Section. 47 different project proposals were received and the proposals were scrutinized by the member review committee of the relevant specialization and based on the recommendation by the committee, 19 project proposals were short listed. The presentation and demonstration of these projects will be held in the month of April and the best projects will be funded .

➤ **Technical Sponsorships and Financial Assistance to the student branches:**

IEEE Madras Section provides Financial Assistance to the activities such as, Conferences, Workshops, Seminars, Symposia, etc., organized by the student branches. The norms have been defined for such Financial Assistance is based on the budget and number of members the available in each branch. During the year 2019, 16 such programs have been extended financial support to the tune of Rs. 1,20,400/-. The Section has also approved for 15 more student branches in-principle.

➤ **Faculty Development Program**

In order to enhance the quality of teaching – learning Section is actively conducting the Faculty Development Programs in the relevant technical areas in various Engineering Institutions located at different parts of Tamil Nadu. During the year 2019, 1 such program were organized as below:

Sl.No.	Date	Topic	Venue	No. of participants
1.	21- 22 Feb 2019	Modern Trends in Image Processing	K. Ramakrishnan College of Technology, Tirchy	30

Section Technical Chapter:

IEEE Madras Section has 26 Technical Society Chapters and 2 Affinity Groups. The tables below indicate the Technical Society Chapters, Affinity groups Chairpersons:

Technical Society Chapters:

Sl.No.	Society Name	Chairperson
1.	Aerospace and Electronic Systems (AES)	Dr.T.Muthumanickam
2.	Antennas and Propagation (APS)	Dr.T.Shanmuganatham
3.	Broadcast Society (BS)	Dr. B. Nagaraj
4.	Computer Society (CS)	Dr. P. Shakhivel
5.	Communications (COMSOC)	Mr. P. Subramanian
6.	Computational Intelligence (CIS)	Dr. N. Kumarappan
7.	Control Systems (CSS)	Dr. R. Hariprakash
8.	Engineering in Medicine & Biology (EMBS)	Dr. K. B. Jayanthi
9.	Electron Devices (EDS)	Dr. D. Nirmal Kumar
10.	Education (ES)	Mr. A. Darwin Jose Raju
11.	Electromagnetic Compatibility(EMCS)	Dr. P. Salil
12.	Industrial Applications (IAS)	Dr. S. Rajavel
13.	Information Theory (ITS)	Dr.V.Gomathi
14.	Instrumentation and Measurement (IMS)	Dr. V. Jagadeesh Kumar
15.	Microwave Theory and Techniques (MTTS)	Dr. V. Abhaikumar
16.	Nano Technology Council (NTC)	Dr Madheswaran
17.	Power and Energy (PES)	Dr. R. Sarathi

18.	Power Electronics (PELS)	Dr.R.Seyezhai
19.	Product Safety Engineering (PSES)	Dr. R.Dhanasekaran
20.	Professional Communication (PCS)	Dr. E. Kannan
21.	Photonics (PS)	Mr.T.N. Subash
22.	Robotics and Automation (RAS)	Dr.Vinod B
23.	SIPCICOM	Ms.S. Annam
24.	Social Implications of Technology (SITS)	Mr. R. Navaneethakrishnan
25.	Signal Processing (SP)	Dr.S. Salivahanan
26.	Technology and Management Society (TEMS)	Dr. Kulanthaivel

Affinity Groups

Sl.No.	Affinity group Name	Chairperson
1.	WIE Affinity Group	Dr. N. Nithyavathy
2.	Young Professionals	Mr. A. Aravindhan

✓ Motivational Award

During Annual Meet (AM), every year, Cash awards and appreciation certificates are awarded to the active and dynamic student branches based on the performance of the student chapters and society units. The Student Branches having maximum number of members are also honored during the AM. During the last year, appreciation certificates were given to top 3 best performing Student Branches and societies chapters of the section. These awards were distributed during the Annual Meetings, to motivate the student branches to perform better and it resulted in enhancement of higher level performance of the student branches.



Below are the awards given to Student Branches to Motivate the Members:



- ✓ Student Branches conducting good number of activities.
- ✓ The Student Branch having maximum number of members, award given to top three colleges

➤ IEEE Section Newsletter

MAS LINK, the newsletter of Madras Section is being published quarterly as a eNewsletter is circulated to all the members of the section including student members. Each issue of every month is uploaded in the IEEE Madras Section web site in order to reach more number of members around and to add more information. The newsletter includes the following:

1. Chairman's Message
2. Editor's Column
3. Activities reported by the various branches of the section to encourage for better performance.
4. Activities reported by the various Society Units.
5. Announcements and reporting regarding the Conferences, Workshops, Seminars, Symposia, etc., coordinated by the Technical Society Chapters and student branches functioning in various institutions.
6. Achievements of professional members.

❖ Major Events (International, National)

✓ Student Reach-out Program (SRP):

IEEE Madras Section comes out with a proposal of organizing named Student Reach-out Program (SRP) by eminent professors at different regions of Tamilnadu to teach the fundamentals. IEEE understands many professors are in need of professional service to reach out the students and to initiate faculties to provide lectures in the different geographical regions of Tamilnadu & Pondicherry. As you all aware that IEEE stands ahead and would like to collaborate with education institution. There are around 500(approximately) engineering colleges, in which the curriculum based regular classes are being organized, it is also essential to enrich the student's knowledge/conceptual understanding by interaction with eminent professors.

The topics covered are: Presentation on "Internet of Things"

-Machine Learning

-Presentation on "Data Analytics

-Presentation on "Cloud Computing

Two days program is planned on 5-6 July 2019 at Anna University, Coimbatore, and based on the feedback from the students next SRP will be organized at different regions of Tamilnadu.

❖ Major Chapter Activities

✓ Chapter Activities

Sl.No.	Society Name	No. of Meetings Conducted
1.	Aerospace and Electronic Systems (AES)	8
2.	Antennas and Propagation (APS)	3
3.	Broadcast Society (BS)	-
4.	Computer Society (CS)	-
5.	Communications (COMSOC)	5
6.	Computational Intelligence (CIS)	-
7.	Control Systems (CSS)	2
8.	Engineering in Medicine & Biology (EMBS)	2
9.	Electron Devices (EDS)	3
10.	Education (ES)	3
11.	Electromagnetic Compatibility(EMCS)	-
12.	Industrial Applications (IAS)	-
13.	Information Theory (ITS)	2
14.	Instrumentation and Measurement (IMS)	-
15.	Microwave Theory and Techniques (MTTS)	-
16.	Nano Technology Council (NTC)	-
17.	Power and Energy (PES)	-
18.	Power Electronics (PELS)	4
19.	Product Safety Engineering (PSES)	-
20.	Professional Communication (PCS)	-
21.	Photonics (PS)	6
22.	Robotics and Automation (RAS)	2
23.	SIPCICOM	-
24.	Social Implications of Technology (SITS)	8
25.	Signal Processing (SP)	4
26.	Technology and Management Society(TEMS)	-

❖ Major Student and Affinity Group Activities

✓ Student Activity:

- Student Branch officer's meet
- Technical Lectures different region of section: In order to have more student centric participation, from technical lectures were conducted in different cities by the section, technical and student activities committee.
- Student Reach-out Program (SRP)
- 2019 – IEEE MAS SYMP – Cluster
- Student Congress 2019
- Student Paper Contest

✓ Affinity Group Activities:

Sl.No	Affinity Group Name	No. Of Activities
1.	Young Professionals	3
2.	Women In Engineering	6

- ✓ Awards : please see page 4

A.2 Financial Report –

- **Summary (as per submitted on NetSuite) :** submitted online through NetSuite to HQ
- **Any other financial activities**
 - ✓ Project funding for the students
 - ✓ Faculty Development
 - ✓ Technical Lectures
 - ✓ IEEE Mini POCO
 - ✓ Travel Grant given to 4 delegates for presenting the paper in the International Conference.
 - ✓ Travel Support given for Execom Member for attending the INDICON 2019 & F2F
 - ✓ Sponsorship Rs. 30,000 given to AISYWC, Hyderabad.
 - ✓ Travel support given for 4 participants to attend the R10 SYWL,
 - ✓ 16 National /International Conferences organized by the student Branches in different Engineering Colleges and Chapters of the IEEE Societies were co-sponsored by the Madras Section.

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

- **Total number of active members in the past 3 years.**
The details of Membership as on 31st Dec 2017, 2018 and 2019 are given below:

	<u>31st Dec 2017</u>	<u>31st Dec 2018</u>	<u>31st Dec 2019</u>
➤ Life Fellow	0	0	1
➤ Fellow	4	5	4
➤ Life Senior	15	15	16
➤ Senior Members	218	271	346
➤ Life Members	8	7	8
➤ Members	2099	2092	1914
➤ Affiliate Members	21	18	16
➤ Associate Members	68	70	43
➤ Graduate Student Members	683	647	582
➤ Student Members	5654	5056	3965

Total Membership	8770	8181	6895

- Summary and evidence of work done to improve the value of membership, which leads to retention and growth of members

IEEE Madras Section Student Project Funding(SPF- 2018–19)

1	IOT Based Real Time Monitoring & Controlling System for Food Grain Procurement and Storage	Aarupadai Veedu Institute Of Technology, Chennai – 603014.	1. Velmurugan S -94368809	5000
2	Early Detection of Disbetic Peripheral Neuropathy	PSG College of Technology, Coimbatore – 641004.	1. S. Pradeeph - 94862272	15000
3	E-Cattle Health Monitoring And Fertility Detection Using IoT	Dr. N.G. P. Institute Of Technology, Coimbatore – 641048.	1. Mr.S.Bharathkumar - 95047075 2. Mr.P.Karthikeyan – 95047060 3. Mr.M.Sherwin -95047050 4. Mr.S.Sijon - 95047061	5000

4	Non - Invasive screening of Anaemia using Artificial Intelligence	KCG College of Technology, Chennai – 600097.	1. Monisha K -93994441	3000
5	Dynamic & Decisive Crop Specific Irrigation Management System Using Machine Learning And IOT	VIT Chennai, Chennai - 600127.	1. Krishnakumar M -95106788 2. Aylmer Britto R - 95110192	15000
6	Intelligent Smart Poly Hous for Roof Top Irrigation	Dr. N.G. P. Institute Of Technology, Coimbatore- 641048.	1. Mr. S. Madhavan Srinath- 95047079 2. Mr. J. Shankar Prasath – 95048573	10000

B.2 Chapter Activities

- Total number of Chapters in the Section :26
- Number of Chapters formed in the current year : 1
- Number of active Chapters :

- **Summary of Chapter activities (Chapter wise with attachment table/information)**

Aerospace and Electronic Systems

Sl. No.	Event Date/s	Topic	Resource Persons
1	29.01.2019 & 30.01.2019	Two Days Faculty Development Program on “Integrating Computational Thinking Into Curriculum With Matlab & Simulink”	Er.D.Rajkumar,
2	09.04.2019	A Seminar on IEEE Blended Learning Program (BLP)	Mr.Munir
3	23.07.2019 & 24.07.2019	Faculty Development Programme titled “Artificial Intelligence and Image Processing using MATLAB and SIMULINK”	Er.D.Rajkumar,
4	31.07.2019	One day Seminar on “MEMS” Technology	Mr.Kaustubh Kumar Shukla
5	28.08.2019	One day hands on Workshop on Introduction to MATLAB and Simulink	Dr.T.Sheela Dr.S.Valarmathy, Dr.R.Ramani Prof.R.Ezhilan
6	30.08.2019	MatLab – Teaching and Learning Process	Abhishek Pabdey
7	01.10.2019	One day Faculty Development Programme on “Deep Learning for Computer Vision Application with MATLAB”	Mr. Amith Kamath, Er. D. Rajkumar,
8	18.11.2019 & 19.11.2019	Two Days Hands on Training on “Smart Phone Chip Level Servicing	Mr.B.Krishnakumar

Antennas and Propagation

Sl. No.	Event Date/s	Topic	Resource Persons
1	13.7.2019	Seminar on 5G Communication: Need and Challenges	Dr. KJ Vinoy, Dr. Neelakandan, DR. K T Selvan
2	20- 21.9.2019	Workshop on Advancements in Antennas	Multiple
3	18.10.2019	Faculty Development Program on Teacher Development program on Inspired Teaching of Electromagnetics	Multiple

Communications Society

Sl. No.	Event Date/s	Topic	Resource Persons
1	Feb 02, 2019	Workshop on Business Opportunities using 5G Technology	Multiple
2	Feb 28, 2019	Seminar on Safety Issues in Mobile Communication	Multiple
3	March 04, 2019	Workshop on Switching and Routing Concepts in Communication Networking using Cisco Packet Tracer	Multiple
4	March 30, 2019	Workshop on Workshop on Artificial Intelligence, Machine Learning and Deep Learning	Multiple
5	May 21-22, 2019	Workshop on 5G Communication & Block chain Technology	Multiple

Control Systems

Sl. No.	Event Date/s	Topic	Resource Persons
1.	26/09/2019 and 27/09/2019	Workshop on Deep Learning and Image Processing for Medical and Industrial Control Application.	Dr.B.Hemakumar,
2.	10/10/2019	Guest Lecture on Artificial Intelligence in Robotics Control	Dr.P.V.Manivannan

Electron device Society

Sl. No.	Event Date/s	Topic	Resource Persons
1	24.01.2019	Two Days Hands On Training In "Embedded Systems With IOT"	Mr.S.Suresh and his team
2	20/05/2019 to 23/05/2019	Summer school	Mr. J. Jenkin Winston Mrs. Suganthi Evangeline Dr. Shobha Rekh Mr. Victor Du John
3	30/08/2019	Current Technologies in Smart Grid and Electronics System	Dr. Ramakrishna Kappangattu

Engineering in Medicine and Biology

Sl. No.	Event Date/s	Topic	Resource Persons
1.	27.09.19	Workshop on Sports Biomechanics And Evaluation Techniques	Multiple
2.	31.12.2019	Technical Talk on IoT in Health Care	Mr. K. Raguvaran,

IEEE Information Theory

Sl. No.	Event Date/s	Topic	Resource Persons
1	25 th Nov 2019	Technical Talk on Benefits of IEEE SIGHT & HAC Activities	Dr.V.Gomathi
2	20 th Dec 2019	Technical Talk on Generative Adversarial Network Model	Dr.V.Gomathi

Power Electronics

Sl. No.	Event Date/s	Topic	Resource Persons
1	07.02.2019	Seminar on IEEE MADRAS SECTION MASSYMP - CL – 2	Dr.A. Bharathi.
2	16.02.2019	Workshop on Simulation of Power Electronic Converters Using Matlab/Simulink	Dr.R.Seyezhai, Dr.R.Ramaprabha, Dr.M.Balaji,
3	29.8.2019 To 30.8.2019	Workshop on Power Converters and Power Quality	Multiple
4	07.09.2019	Workshop on A hands on Workshop on “Introduction to dsPIC Microcontroller for PWM generation in Power Electronic Circuits	Dr. M.M Rajan Singaravel,

Photonics Society

Sl. No.	Event Date/s	Topic	Resource Persons
1.	29th To 31st October 2019	Seminar Cum Workshop On Photonics & Optical Network	Multiple
2	01 st & 02 nd March 2019	Two Days National Workshop On Signal Processing & Photonics Applications Using Matlab.	Mr. Seyad Ibrahim,
3.	31 st October, 2019	Research Methodology - Demestyfying Method Of Writing Effective Research Articles”	Dr.T.D.Subash
4.	26 th September, 2019	IEEE Photonics Society St.Joseph’s Institute Of Technology Student Chapter Inaugural Function And IEEE Photonics Society Awareness Programme	Dr.T.D.Subash,
5.	24 To 26 September 2019	Frontiers Of Photonics And Optical Communication	Multiple
6.	18th January 2019	IEEE Distinguished Guest Lecture On Photonics	Prof.Liam Barry,

Robotics and Automation

Sl. No.	Event Date/s	Topic	Resource Persons
1.	26.12.2019	Guest Lecture Robotics & Autonomous System	Dr. M. Ravi,
2.	26.12.2019	Guest Lecture on Symbolic Processing Applications in Robotics	Mr. M. Vasanthakumar,

Signal Processing

Sl. No.	Event Date/s	Topic	Resource Persons
1.	27/08/19	Guest Lecture on Machine learning - from features to modelling - Signal processing perspective	Dr. P. Vijayalakshmi,
2.	22/10/19	Guest Lecture on Neural Prostheses for Amputees and Patients with Spinal Cord Injuries	Dr. V John Mathews
3.	22/10/19	Distinguished Lecturer on Neural Prostheses for Amputees and Patients with Spinal Cord Injuries	Dr. V John Mathews
4.	18/11/19	A 6 Day Faculty Development Program on Speech and Vision Enabled Intelligent Systems	Multiple

Society on Social Implications

Sl. No.	Event Date/s	Topic	Resource Persons
1	4, 5, Feb 2019	Workshop on Applied Gaming workshop	Mr. Arvind Neelakantan
2	5, 6 Feb 2019	Workshop on UI & UX Design workshop	Mr. Prasath
3	4, 5, Feb 2019	Workshop on Robotic Operating System	Mr.Karthik
4	7 August 2019.	Workshop on IEEE Authorship workshop	Dhanukumar Pattanashetty
5	26 April 2019	Technical talk on Trends in Embedded systems technologies	Mr.Navaneethakrishnan,
6	21 st March 2019	IEEE SSIT webinar series : Hide & seek with Happiness.	Ms.Radha Narayanan,
7	14 Aug 2019	IEEE SSIT webinar series - New and Existing Chapter Development	Mr.Robert Dent,
8	19th December 2019	IEEE SSIT Webinar series - You can't have your planet and eat it!	Dr.Henrik Nordborg,

B.3 Professional and Continuing Education Activities

Summary of continuing Educational activities including conferences, technical activities, training courses, and distinguished lecture programs with attachment table / information

Educational Activities: Dr. D. Devaraj

➤ Faculty Development Program (FDP) – 1

Sl.No.	Date	Topic	Venue	No. of participants
1.	21- 22 Feb 2019	Modern Trends in Image Processing	K. Ramakrishnan College of Technology, Tiruchy	30

➤ Technical Activities

Sl.No.	Date	Topic	Speaker	No. of participants
1.	24-25 Jan 2019	2019 – IEEE MAS SYMP – Cluster 1	Multiple	30
2.	7 th Feb 2019	2019 – IEEE MAS SYMP – Cluster 2	Multiple	42
3.	9 th March 2019	2019 – IEEE MAS SYMP – Cluster 3	Multiple	53
4.	27 th Sep 2019	Technical - Internet of Things for smart city applications	Kirubakaran Reddy	154
5.	28 th Sep 2019	'Big data challenges and data aggregation strategies in Wireless sensor networks'	Dr.C.Valliyammai	70
6.	18 th Oct 2019	Technical -Recent Developments in Industries & Evolution of Industrial 4.0'	Dr.M.Duraiselvam	53
7.	21 st Oct 2019	Seminar - Trends in Machine Learning for Software and Hardware Applications	Mr. Eugene Kingsley	40

B.4 Students Activities

- Total number of Student Branches in the Section - 161
- Number of Student Branches formed in the current year – Nil

- Section level student activities (student congress, paper and other contests, awards etc)

Sl.No.	Date	Venue	Topic	No. of participants
1.	5-6 July 2019	Anna University, Coimbatore	Student Reach-out Program	30
2.	31 st Aug 2019	Kongu Engineering College	Student Paper Contest	73
3.	20-21 Sep 2019	SRM University	IEEE Student Congress 2019	61

- Number of active Student Branches - 94

- Summary of Student Branch activities (Student Branch wise with attachment table/information)

Sl. No.	College Name	Topic	Amount (Rs.)
1	Panimalar Institute of Technology	Workshop on Internet of Things	5,550.00
2	Velammal Engineering College	Seminar on Machine Learning	8,950.00
3	Manakula Vinayagar Institute of Technology	One day National Level Seminar on " Emerging trends and Innovation Challenges in Renewable Energy for development of Smart Cities"	2,500.00
4	SSN	4th International Conference on electrical Energy Systems (ICEES 2018)	12,500.00
5	Sri Krishna college of Engineering and Technology	Two days National Level Workshop on " Applied Soft Computing Techniques	2,900.00
6	KIOT	National Level Seminar a " The Role of Machine Learning And Artificial Intelligence in Medical Science	2550.00
7	Panimalar Institute of Technology	Workshop on 5G communication & Block chain	8200.00
8	Panimalar Engineering College	International Conference on " Emerging Current Trends in Computing and Expert Technology (COMET 2K 19)	6300.00
9	Sri Ramakrishna Engineering College	Design of Electrical Machines for Vehicle Applications	6050.00
10	St. Joseph Institute of Technology	Workshop on Design, Optimization and Analysis of Electrical Machines	11300.00
11	National Engineering College	A Two Day Hands on Training on Web designing using Python	5,150.00
12	Kongu Engineering College	AVANZARE V13.0	11450.00
13	Dr. Sivanthi Aditnar College of Engineering	Two days National Workshop on ARM Architecture and Interfacing Practice	7500.00
14	Saveetha Engineering College	Seminar on "Simulation Analysis of Interference effects in a Receiver Antenna"	5000.00
15	B.S. Abdul Rahman Crescent Institute of Science & Technology	One day National Seminar on " Power Electronic Drives for Electric Vehicles"	10000.00
16	St. Joseph's Institute of Technology	Computer Vision [Open CV] using Raspberry Pi and Python	14500.00

- Travel Support given to 3 delegates (2 students and 1 Execom Members from Section)

Sl. No.	Delegate Name	Institution Name	Amount in (Rs.)
1.	Mr. Abishek	St.Xavier's Catholic College of Engineering	10,000
2.	Mr.A. Aravindhnan	Chairman YP	10,000
3.	Mr. Sivaraman	Sri Sairam Engineering College	10,000

4.	Josephileselle	Kalasalingam University	10,000
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B.5 Affinity Group Activities

➤ Young Professional (YP)

Sl.No.	Date	Venue	Topic	Resources Person	No. of participants	Fund spent Amount in (Rs.)
1.	11 th - 12 th April 2019	AVIT , Chennai	ICSMART 2019	Multiple	73	Technical Sponsor
2.	5 th Jan 2019	SSN Chennai	IEEE Student Professional Awareness Conference	Multiple	150	2,000
3.	5 th Oct 2019	Anna University, Chennai	One Day PLC Hands-On Training Workshop	Multiple	38	10,000

➤ Women In Engineering (WIE)

S.No.	Date	Topic	Resource Person	No. of participants	Fund spent Amount in (Rs.)
1.	16.02.19	Deep Learning using TensorFlow	Mr. Manickam Saravanan Firmware Engineer, Intel Mobile Communications India Pvt. Ltd.	50	Technical Sponsor
2.	22.02.19	The 99 Day Diversity Challenge -- Creating an Inclusive Workplace	Dr. Saundarya Rajesh Social Entrepreneur, Founder & President, AVTAR Group Author of the book "The 99 Day Diversity Challenge"	70	2000
3.	28.02.19	One Day National Level Workshop On Deep in Machine Learning	Mr.Sanjay Siddha Pradeep Kumar Lead Software Engineer, HCL Technologies, Chennai	62	Technical Sponsor
4.	16.03.19	She Says: Challenge your Perspective	Ms. R. Theivaani, Technical Member, ZOHO	30	5000
5.	31.08.19	One Day National Level Wie Meet	Mrs.Emi Yano IEEE Region -10 (Asia Pacific) Women in Engineering Chair, Japan	45	1400
6.	13.09.19	Workplace Safety & Compliance of Prevention of Sexual Harassment Act	Ms. Viji Hari Co-Founder and CEO of KelpHR, Author of Behind Closed Cubicles	60	2000

➤ Life Member

The Section has 8 life members

B.6 Awards & Recognition Activities

➤ Award constituted by the section:

To encourage the student branches & societies to conduct more activities, cash awards & certificates of appreciation are being distributed every year at the Annual Meet. The selection of SBs for the awards is based on the parameters such as activities conducted, membership strength, reporting in the newsletter, website maintenance, society chapters in the SBs, awards, funding received etc., Similarly, the Society Chapters and Affinity Groups are awarded based on their activity level, accounts submission, website maintenance etc.

➤ List of all Awards and Recognitions by the Section to SBs:

S.No	SB Number	SB Name	Cash
1	STB15181	Panimalar Institute Of Technology	10000
2	STB60101	St. Joseph's College Of Engineering	7500
3	STB08101	Knowledge Institute Of Technology	5000
4	STB 29741	Kongu Engineering College	5000
5	STB16181	St. Joseph's Institute Of Technology	3000
6	SB11081	Saveetha Engineering College	3000
7	STB 60551	Sri Sivasubramaniya Nadar College Of Engineering	3000
8	STB14231	Panimalar Engineering College	3000
9	STB64616	K. Ramakrishnan College Of Engineering	3000
10	STB 35301	SRM Institute Of Science And Technology	3000
11	STB33311	Ieee - Vit Student Branch	3000
12	STB99061	National Institute Of Technology - Tiruchirappalli	3000
13	STB61491	Sri Ramakrishna Engineering College	3000
14	STB34451	Kalasalingam Academy Of Research And Education	3000
15	STB8081	PSNA College Of Engineering & Technology	3000
16	STB05511	Dr.N.G.P. Institute Of Technology	3000
17	STB28141	Thiagarajar College Of Engineering	3000
18	STB-03961	Sri Eshwar College Of Engineering	3000
19	STB-10731	Jeppiaar Institute Of Technology	2000
20	STB61401	Dr.Sivanthi Aditanar College Of Engineering	2000
21	STB60791	K.L.N College Of Engineering	2000
22	STB64275	JCT College Of Engineering And Technology	2000
23	STB09271	Jansons Institute Of Technology	2000
24	STB-10171	Sastra Deemed University	2000
25	STB65101	M.Kumarasamy College Of Engineering	2000
26	STB64181	Francis Xavier Engineering College	2000
27	STB16621	Kings College Of Engineering	2000
28	STB 60981	Sri Sairam Engineering College	2000
29	STB61261	Sri Krishna College Of Engineering And Technology	2000
30	STB64273	Surya Engineering College	2000
31	STB64290	Vaigai College Of Engineering	2000
32	IEEE STB 29861	Mepco Schlenk Engineering College	2000
33	STB18861	KPR Institute Of Engineering And Technology	2000
34	STB13211	Scad College Of Engineering And Technology	2000
35	STB10241	Rvs College Of Engineering And Technology	2000
36	STB09591	Vit Chennai	2000
37	SB60661	Velammal Engineering College,Chennai	2000
38	STB64283	Rvs Technical Campus	2000
39	STB 28841	B.S.Abdur Rahman Crescent Institute Of Science And Technology	2000
40	STB64274	Ppg Institute Technology	1000
41	STB10139	M.A.M. College Of Engineering And Technology	1000
42	STB03237	Kongunadu College Of Engineering And Technology	1000
43	STB10070	Sri Ramakrishna Institute Of Technology	1000
44	STB2529751	Kumaraguru College Of Technology	1000

45	STB36301	Sathyabama Institute Of Science And Technology	1000
46	IEEE STB 61631	Dr.Mahalingam College Of Engineering And Technology	1000
47	STB 31061	Karunya Institute Of Technology And Sciences	1000
48	STB 15122	Hindusthan Institute Of Technology	1000
49	STB60891	K.S.Rangasamy College Of Technology	1000
50	STB14661	Dr.M.G.R. Educational & Research Institute	1000
51	STB 64286	IIITM Kancheepuram	1000
52	STB14006	V V College Of Engineering	1000
53	SB9491	Mahendra Engineering College	1000
54	STB10731	Ramco Institute Of Technology	1000

➤ **List of all awards received by all the societies:**

S. No.	SB Name	Score	Certificate Y/N
1	Young Professionals Affinity Group	73.5	Yes
2	Women in Engineering	68.5	Yes
3	Aerospace Electronics System 10	54.5	Yes
4	Photonics Society Madras Chapter	50	Yes
5	Power Electronics Society	38	Yes
6	Electron devices	34.5	Yes
7	IEEE Information Theory Society	31	Yes
8	Social Implications of Technology	29.5	Yes
9	Education Society Chapter	26.5	Yes
10	COMMUNICATIONS SOCIETY	25	Yes
11	Control Systems	18	Yes
12	Engineering in Medicine and Biology Society (EMBS)	18	Yes

➤ **Awards given to Student Branches having Large Membership by the section**

Sl.No.	Student Branch Name	Total No. of members	Position
1.	Sri Sivasubramaniya Nadar College of Engineering	272	I
2.	St. Joseph's Institute of Technology	224	II
3.	M. Kumarasamy College Of Engineering	223	III

➤ **Awards given to Student Branches for winning the Student Project funding:**

S No.	Project Title	College / Student Names Mr. / Ms.	Amount in (Rs.)
1	IOT Based Real Time Monitoring & Controlling System for Food Grain Procurement and Storage	Aarupadai Veedu Institute Of Technology, Chennai – 603014.	5000
2	Early Detection of Disbetic Peripheral Neuropathy	PSG College of Technology, Coimbatore – 641004.	15000
3	E-Cattle Health Monitoring And Fertility Detection Using IoT	Dr. N.G. P. Institute Of Technology, Coimbatore – 641048.	5000

4	Non - Invasive screening of Anaemia using Artificial Intelligence	KCG College of Technology, Chennai – 600097.	3000
5	Dynamic & Decisive Crop Specific Irrigation Management System Using Machine Learning And IOT	VIT Chennai, Chennai -600127.	15000
6	Intelligent Smart Poly Hous for Roof Top Irrigation	Dr. N.G. P. Institute Of Technology, Coimbatore- 641048.	10000

➤ **Awards received from R10:**

- ✓ Aravindhan Anbazhagan received the recipient of the IEEE MGA Young Professionals Achievement Award for the year 2019

➤ **Award(s) received from IEEE HQ : Nil**

B. 7 Communication Activities (Newsletter, Home Page, E-mail etc.)

➤ Newsletter (name and number of issues in the year)

- Name: IEEE Mas-Link
- Number of issues in the year: 5 issues (Quarterly)
- Web Link for Newsletter: <https://www.ieemadras.org/news-letter-2/>

➤ Home Page of the Section (give the URL and how often it is updated)

- URL: <https://ieemadras.org>

➤ Other means of contacts with Section members including social media: - IEEE Madras Section office is in regular touch with all the members through mail and by creating List serv IDs for Members, Students and other Student Branches. - The IEEE Madras Section website has been upgraded There are login credentials for different modules set up in this system.

B. 8 Industry Relations

- **Membership growth and retention:**
- Activities for/with industrial members

B. 9 Humanitarian Technology Activities

➤ **Humanitarian Technology related activities supported by the Section including collaboration with other OUs. –**

Sl. No.	Activity Date/s	Topic	Resources Person	Venue
1.	13.09.19	Awareness program on Workplace Safety & Compliance of Prevention of Sexual Harassment Act	Ms. Viji Hari, Co-Founder and CEO of KelpHR, Author of Behind Closed Cubicles	Shasun Arts and Science College, T-Nagar Chennai

➤ **SIGHT Activities**

Sl.No	Date	Title of the activity	Venue
1	7-8/02-2019	Consultation on Sea Safety Manual Preparation	Animation Center, Bishop's House, Nagercoil

2	11/02-2019	Technical Experts meeting on Sea Safety preparation	Deep Sea Union Hall, Thoothoor, Kanyakumari District
3	14/02-2019	Encouraging School students towards engineering	Nirvana High School Kottakuppam, Villupuram
4	26/02-2019	Encouraging School students towards engineering	St. Helena School Enayam, Kanyakumari District
5	04/03-2019	Job Oriented Training for the widows and women Victims of cyclone Okhi	Vallavilai, Kanyakumari District
6	15/03-2019	Job Oriented Training for the widows and women Victims of cyclone Okhi	Vallavilai, Kanyakumari District
7	20-21/05-2019	Exposure visit on Deep Sea Fisheries	SIFFS and KDFS, Jepar Harbour
8	28/05-2019	Seminar on Ocean Pollution and Ocean Safety	St: Jude's Library, Chinnathurai, Kanyakumari District
9	13/06-2019	Awareness programme on Ocean Pollution and Ocean Safety	Colachel Fishing Harbour, Kanyakumari District
10	14/06-2019	Sea Safety Training	Vallavilai, Kanyakumari District
11	19/06-2019	Sea Safety Training	Enayam, Kanyakumari District
12	06/08-2019	Workshop cum demonstration on "Community Innovation and Community Engineering for Social Change and Organizational Development"	Annai Vailankanni College of Engineering, Kanyakumari District
13	11/09-2019	Mock Drill on Establishing Power and Light to the Disaster Response	Enayam, Kanyakumari District

B. 10 Community Activities

➤ IEEE Social activities (Family day, IEEE day, Engineers Week)"

- IEEE day (Pls see pg no.2)

PART C - OTHERS

C.1 Special Events

➤ Please briefly describe the importance of special events and the outcomes achieved :

Sl.No.	Date	Venue	Topic
1.	5-6 July 2019	Anna University, Coimbatore	Student Reach-out Program
2.	31 st Aug 2019	Kongu Engineering College	Student Paper Contest
3.	20-21 Sep 2019	SRM University	IEEE Student Congress 2019

Outcomes

- A networking opportunity to identify and contact others was given.
- A basement for future directions for the forum was constructed.
- Known about the funding for organizing activities.
- Updated about the funds available for student chapters.

➤ Funding secured from the IEEE and external sources including sponsorships

- Funding secured from the IEEE - \$3000/-
- External sources including sponsorships - Nil

C.2. Relationship with National and International Societies and Non-Government Organizations (NGO)

- Nature of relationship and details of any formal agreement signed:
- IEEE Madras Section works in close collaboration with other Professional Society Chapters in Chennai. World Telecommunication day was organized by IETE centre, Chennai and was co-sponsored by IEEE Madras Section.
- IEEE Madras Section also co-sponsored the programs organized by Institution of Engineers (India), Chennai Centre.
- IEEE Madras Section, IEEE Computer Society and Computer Society of India, which is another National Professional Society jointly, organize programs of common interest like Object Computing.
- Details of joint activities
- Benefit to IEEE members (for example discounts, access to technical information etc.)
- Benefit to Section (for example help in membership development, venue facilities, cost saving etc.)

C.3. Collaboration with other IEEE Sections : Nil

- Support extended to neighboring Sections
- Joint activities with any other Section

C.4 Support extended to Sub-sections & Society Chapters within the Section: Nil

- Support extended for organizing technical, educational and professional activities
- Joint activities for membership development : Nil
- Support extended for the formation of a Sub-section or transition of a Sub-section into a full Section: Nil

C.5 Best Practices of your Section (which you would like to share with other Sections for the benefits of members)

1. Regular Faculty Development programs in different locations in the state to benefit good number of faculty members.
2. Travel grant for members whose papers are accepted in International Conferences
3. Funding for the student projects submitted by the student branches of the section to motivate student membership and also to improve the quality of the student Projects at undergraduate level.
4. Technical Support and sponsorship by the section to the student branches for various technical programs – Conferences, Workshops, Seminars, Symposia etc., for the improvement of Quality Technical Program increasing the technical activity in the student branches.
7. Community out reach program to mold better youth of the country.
8. Technical Lecture series organized by the technical Society chapters .
9. Communication and personality development programs organized by the section.

10. Recognition & Awards during Annual Meet to dynamic student chapter technical societies, good performance in Xtrem contest encouraging the awards & R10 and IEEE Head Quarters'

C.6 Problems anticipated and suggestions for solutions, if any

- Retention of Student members
- To increase in professional members on account of increase in members subscription

PART D - GOALS AND PLANS

D.1 Continuation of project/activity in progress and their implementation plans:

1. The funding of the student projects to continue every year in order to constantly improve the quality of the projects.
2. A project exhibition contest to identify creative and innovative proposals and implementation of strategy for further improvement.
3. To plan more Faculty Development Programs in different parts in order to increase the number of beneficiaries. This will improve the quality of teachers and improve the teaching learning process as a whole.
4. More Skills Development Programs and Teacher-in- service programs based on popular demand from members.
5. More conference technical co-sponsorships to create critical mass of competencies in organizing world class conferences
6. More HUB congress to be conducted at different districts for the benefits of students.
7. To conduct Industry related and Entrepreneurship programs

D.2 Goals and Future Plans:

1. To geographically spread the technical activity organized by the section, the society chapters and affinity groups.
2. Plan to organize the Membership awareness programs and Recognition of outstanding student branch and outstanding student volunteer and Branch counselor.
3. To make the activity more student centric such that the future Engineers are more competent in all Endeavors.
4. To take the technical knowledge and state of the art technology to the rural parts as well. To create awareness about Science and Technology in school level.
5. To organize workshop of hands on training on advanced health care for better quality of life.
6. To increase the chapter membership and senior membership Programs
7. To coordinate with student branches for good industry connect.
8. Organize industrial visit for IEEE student members.
9. Organizing Lectures on emerging technologies.

D.3 Any innovative ideas to make IEEE more creative and value added for sustaining the membership retention and recruitment goals.

- Planning to circulate IEEE months newsletter to all the educational Institution who are not part of IEEE even if no IEEE Student Branch in order to enhance the member base both Student Member and Student Graduate Member and Professional Member.
- Recognition of outstanding student branch and outstanding student volunteer and Branch counselor.
- To conduct the Membership elevation programs.

D.4 Business Plan for Sustainable Growth and Financial Stability. Nil