IEEE KERALA SECTION
REPORT 2020

PART A - SECTION SUMMARY

A.1 Executive Summary – (Please follow the format given below)
- Section Executive Committee Member List

Role	Name
Chair	Ms. Sarada Jayakrishnan
Vice Chair	Mr. Sabarinath Pillai
Secretary	Dr. Gilesh M P
Treasurer	Ms Sunitha Beevi K
Immediate Past Chair	Dr. S.M. Sameer
Immediate Past Secretary	Mr. Shahim Baker
Chair, Kochi Subsection	Dr Santhosh Kumar
Vice Chair, Kochi Subsection	Dr. M V Rajesh
Secretary, Kochi Subsection	Dr. Bijoy Antony Jose
Chair, Malabar Subsection	Dr. S. D. Madhukumar
Vice Chair, Malabar Subsection	Dr. Sabiq P V
Secretary, Malabar subsection	Dr. Gopakumar P
Chair, Awards Committee	Mr. Satish Babu
Convener, Awards Committee	Mr. Abey Easow Joseph
Chair, Conference Activities Board	Dr. Lillykutty Jacob
Convener, Conference Activities Board	Mr. Nandakumar R
Chair, Educational Activities	Prof. Muhammed Kasim
Vice-Chair, Educational Activities	Mr. C M Varughese
Secretary, Educational Activities	Dr. Kumaravel S
Electronic Communication Coordinator	Mr. Sridev Shyam K.V
Chair, Government Relations	Mr. Sasi P M
Chair, Industry Relations	Mr. Shahim Baker
Inter Society Activities	Mr. Hareendralal A G
Membership Development Chair	Mr. Abey Easow Joseph
Chair, Promotion of Innovation and Entrepreneurship	Mr. Varghese Cherian
Chair, Professional Activities	Mr. Brajesh Kaimal
Chair, Publications & Newsletter Editor	Prof. K Gopalan Nair
SDLP Co-ordinator	Mr. Shankar J
Advisor, SIGHT	Mr. Amarnath Raja
Chair, SIGHT	Mr. Jayakrishnan M C
Secretary, SIGHT	Mr. Midhun
Chair, Strategic Initiatives [Industry Engagement]	Mr. Satish Babu
Secretary, Strategic Initiatives [Industry Engagement]	Fayyaz E
Chair, Strategic Initiatives [Academic Engagement]	Dr. S.M. Sameer
Secretary, Strategic Initiatives [Academic Engagement]	Dr. Finto Raphel
Advisor , Student Activities	Mr. S Gopakumar
Chair, Student Activities	Mr. Nandan S
Vice Chair, Student Activities (Travancore)	Ms. Kutty Malu
Vice Chair, Student Activities (Kochi)	Ms. Anu George
Vice Chair, Student Activities (Malabar)	Ms. Laly James
Student Representative	Mr. Shylesh S
Webmaster	Mr. Nandu R
Chair, Consultant's Network	Prof. V K Damodaran
Chair, Life Member AG	Dr. Madhu Mangal
Vice Chair, Life Member AG	Dr. P S Chandramohan
Secretary, Life Member AG	Mr. S Gopakumar
Chair, WIE Affinity Group	Ms. Mini Ulanat
Vice Chair, WIE Affinity Group	Dr. Meenakshy K

Secretary, WIE Affinity Group	Ms. Deepa AK
Advisor, YP Affinity Group	Dr. Suresh Nair
Chair, YP Affinity Group	Mr. Thomas Sabu
Vice Chair, YP Affinity Group	Mr. Sarath Chand T P
Secretary YP Affinity Group	Jishnu Prakash
Chair, Antenna & Propagation Society	Dr. P. Abdulla
Vice Chair, Antenna & Propagation Society	Dr. Sukomol Dey
Secretary, Antenna & Propagation Society	Mr. Arijith Mitra
Chair, Circuits And Systems Society	Dr. B. Premlet
Vice-Chair, Circuits and Systems Society	Dr. Dhanaraj
Secretary, Circuits And Systems Society	Sangeetha G R
Chair, CS chapter	Mr. Srinivasan R
Vice Chair, CS chapter	Dr. Vishnu Kumar S
Secretary, CS Chapter	Dr. Deepthi Sasidharan
Chair, Comsoc Chapter	Dr. Gopakumar A
Vice Chair, Comsoc Chapter	Dr. Lakshmi Narasimhan Theagarajan
Secretary, Comsoc Chapter	Dr. Anjana P Das
Chair, Engineering in Medicine & Biology Society	Mr. Korothu P Varghese
Vice Chair, Engineering in Medicine & Biology Society	Dr. Sukesh Kumar A
Secretary, Engineering in Medicine & Biology Society	Vivek George
Chair , Geoscience & Remote sensing society	Dr. Rama Rao
ViceChair , Geoscience & Remote sensing society	Praveen Naresh
Secretary , Geoscience & Remote sensing society	Deepak Mishra
Chair, IE, IA & PEL Chapter	Dr. Bijuna Kunju K
Vice Chair, IE, IA & PEL Chapter	Mr. Biju K
Secretary, IE, IA & PEL Chapter	Dr Vasanthi V
Chair, MTTS	Dr. Chinmoy Saha
Vice Chair, MTTS	Dr. Apren T J
Secretary , MTTS	Dr. Krishna Kumar Kishore
Chair, PES Chapter	Mr. Suhair A K
Vice Chair, PES Chapter	Dr. Sobha Manakkal
Secretary, PES Chapter	Dr. Boby Philip
Chair, Robotics and Automation Society	Dr. Jisha V R
Vice Chair, Robotics and Automation Society	Mr. Nandakumar R
Secretary, Robotics and Automation Society	Sandhya L
Chair, Signal Processing Society	Dr. Suresh K
Vice Chair, Signal Processing Society	Dr. M V Rajesh
Secretary, Signal Processing Society	Muhammed Musfir
Chair, SSIT Chapter	Mr. Amarnath Raja
Secretary, SSIT Chapter	Aravind P Unnithan
Chair, RFiD Council Chapter	Dr. Bijoy Antony Jose
Member At Large	Prof. Gomathy K Muraleedharan
Member At Large	Mr. N T Nair
Member At Large	Mr. G Vijaya Raghavan
Member At Large	Mr. E E Rajakumar
Member At Large	Mr. Unnisankar
Member At Large	Dr. A K Unnikrishnan

- Section Highlights
  - Received MGA Outstanding Large Section Award 2020.
  - Registration fee of EMERGE 2020, INR 1,22,700 was contributed to Chief Minister's Distress Relief Fund (CMDRF) of Kerala.
  - The First ever student conference in India IPRECON 2020 organized in Kerala Section
  - 2500+ Events including the student events
  - Multiple Awards received by Section & Volunteers - MGA, R10, India Council, Societies
  - IEEE Day Celebration 2020 - Chief Guest: Dr. Toshio Fukuda, 2020 IEEE President and CEO.
  - Started two Strategic Initiatives on Academia Engagement and Industry Engagement each.

- Major Events (International, National)
  - International Conference - RAICS 2020
    - 3rd December 2020 to 5th December 2020. (3 Days)
    - Theme - "Computational Technologies for a Healthy Humankind".
    - Eight technical tracks, 4 Keynote talks, Inaugural address was delivered by Dr. Michael R. Lightner, IEEE Past President,
    - 92 Submissions, 39 Accepted Papers
  - International Conference PESGRE 2020
    - 2nd January - 4th January 2020
    - 483 submissions from 19 countries, 386 reviewers, and 320 papers were accepted
    - Four tutorials, four plenary talks, two student forums, one industry session, and 44 technical sessions.
  - R10 POCO
    - 18th & 19th December 2020
    - 75+ attendees across the world
    - 8 Talks and a panel discussion.
  - First ever students conference in India - IPRECON 2020
    - 31st October 2020 – 1st November 2020
    - 3 Keynote Sessions
- Major Chapter Activities
  - APS
    - Distinguished Lecture and one week Technical workshop at CUSAT: Frontiers in RF Communications and Circuit Design
    - 17th International Symposium on Antennas and Propagation (APSYM-2020)- Virtual Mode
  - CAS
    - Conducted 11 events to benefit various categories of participants - Higher secondary students, Circuit Branch students, Faculty Development Program, Young Professionals
    - Obtained a grant of USD 2500 from IEEE WiCAS towards promotional event.
  - CS
    - Monthly Webinar series covered topics like CyberSecurity - BlockChain - Artificial Intelligence - Machine Learning
    - TechTheards - 3 editions are published
    - Received more than 60 blogs - The best three blogs are selected
    - AKCSSC - 18 Pre events were conducted by 15 SBs
    - 3 competitions were conducted and prizes were given from a pool of Rs. 30000/-
  - COMSOC
    - GRADUATE CONGRESS: GraTE'7' Graduate Thesis Evaluation in 7minutes
    - Escoge – Online Quiz Series: Technical quiz series held once in every month. Over 200 students of various sections and regions have participated in the event.
    - Tekkutōku :An online platform with a series of interactive sessions with experts
    - Article Writing Competition on "Big Data Analytics & Machine Learning in Wireless Communication"
    - PROCOMM 2020: The Communication Project Competition
  - EMBS
    - BME Quiz 2020" - February 28 & BLAZE QUIZ - December 10
    - SYNAPSIS'20 - June 5-8
    - Doctor's Day Celebration - July 1
    - Elixir - Biomedical Quiz - October 3
    - IEEE-RAICS 2020- Keynote Address - December 5
    - IEEE EMBS CONCLAVE 2020 - December 12-13
    - Spectrum Talks - November 27-December 7
  - GRSS
    - Best Thesis awards 2020 - Across India: 25 thesis shortlisted
    - IEEE GRSS India Young Researchers Conclave 2020
    - Interactive Conferences: Geospatial Start-ups & Academia: Opportunities & Challenges
    - Programming Approaches in Remote Sensing (PARSE)
    - GeoCOD - Geospatial Hackathon; completed on Dec 23, 2020
  - IA/IE/PL
    - Inauguration of : 5 IAS SBC, 2 IES SBC and 1 PELS SBC
    - IVTEC : International virtual conclave

- ▪ MEDHACK : Medical Hackathon
- ▪ AKIASSC 2020: All kerala IAS students conclave
- ▪ VERVECON: 1 month WIE program
- o MTTS
    - ▪ Faculty Development Programme (FDP) on 'Modelling, Measurement and Research Trends in Microstrip Patch Antennas'
    - ▪ Lecture on 'Strategies for the integration and Packaging of millimetre wave CMOS' and 'Satellite systems for emerging telecom applications' L4 Panel discussion
    - ▪ From Engineering Electromagnetics to Electromagnetic Engineering (APS DL)
- o PES
    - ▪ PES Kerala Chapter and its affiliates conducted around 150 programmes in 2020
    - ▪ Initiated a program called 'Remembering Legends' under which dozens of Electrical Engineering were commemorated.
    - ▪ DLP Talk was delivered on Aug 6 by immediate past president of PES
    - ▪ International Tech Talk series were successfully organized by Women in Power
    - ▪ Total Membership of the Chapter reached 2415 from 2084 in 2019. 6 new PES Student Branch Chapters opened in 2020 making the total count 37.
    - ▪ 22 PES SB Chapters received High Performance Chapter Award
- o RAS
    - ▪ Virtual meet up of Chairs of all RAS Student branches
    - ▪ 5 Online workshops , 11 Webinars , 5 webinars by RAS chapter, IEEE Kerala Section
    - ▪ Webinars on different application areas of robotics varying from Robotics Operating Systems to AI in Robotics to Mobile Robotics
    - ▪ 2 online competitions - 15 day coding challenge, 7 day Arduino challenge
- o SPS
    - ▪ 259 Members (69 Professional 28 Graduate Student and 162 Student Members)
    - ▪ Received Chapter Certification for 2021-2024
    - ▪ Collaborated with other chapters in India for joint activities
    - ▪ 5000 USD Member Driven Initiative (FORUM ON SP)
- o SSIT
    - ▪ SSIT Webinar - INDIA in the age of COVID-19, Aadhaar, Population Explosion, Urbanization and Climate Change; Challenges, Opportunities and the Social Implications of Science and Technology
    - ▪ Session - Global Himalayan Expedition Electricity in the Himalayas, Sustainability and livelihood generation
- o RFID Council
    - ▪ IEEE Embedded Challenge 2020
- ● Major Student and Affinity Group Activities
- o Student Activities
    - ▪ Overall 2526 student activities in 2020, 2350 SB reported activities, 176 LINK/HUB events
    - ▪ 5 New SBs formed
- o LMAG
    - ▪ Webinar: "Engineers, COVID19 and War on Pandemics"
    - ▪ Experience sharing series - "Let us hear from the senior most IEEEans of Kerala"
    - ▪ Technical talk on "Electronics Equipment on board Locomotives"
- o YP
    - ▪ EMERGE 2020 : COVID Fundraiser towards CMDRF - 6 Speakers, 818 Participants from 20 countries, Rs 1,22,700 Donated to CMDRF
    - ▪ STEP 2020 - 5 International Speakers, Session by Susan Kathy Land- IEEE President Elect 2020, 350 Student participants
    - ▪ YP Blog - 17 Blog posts on Technical and Professional topics, 2 Blogs per month Target
    - ▪ YP Talks - 32 YP Talks on Student branches across India council
    - ▪ Proud IEEE YP Campaign : Testimonials from 15 YPs across the Globe
    - ▪ CONFERO : Virtual Debate with Cash price
- o WIE
    - ▪ 630 events covering professionals and 71 SBs (Six new SB AGs formed)
    - ▪ Three Series #sheleads, #health ,#tech initiated
    - ▪ #sheleads inaugurated by Dr. Lisa Asunta , Chair WIEC
    - ▪ WIE Summit - organised for Professionals and Students
    - ▪ Collaborative Events with other Sections and Societies

- o CN
  - ▪ Prof. V K Damodaran, LSM and Former Freelance UN International Consultant volunteered to help revive the CN affinity group.
  - ▪ Strategy of revival, plan of action was discussed and worked out at CNAG AGM.
  - ▪ Identified major areas of focus : Start Up Support, Energy Sustainability, ECBC, Evs, Solar Energy, Products & Services, Nanotechnology, Banking, Architects & Buildings, etc
- ● Awards
  - o MGA Outstanding Large Section Award 2020
  - o 2020 MGA Achievement Awards by Dr. Suresh Nair
  - o R10 Life Member Outstanding Volunteer Award by Mr. Hareendralal A G
  - o R10 Outstanding Volunteer Award 2020 by Dr. S M Sameer
  - o R10 Young Professional Outstanding Volunteer Volunteer in Academic by Prof. Nandan S
  - o R10 Humanitarian Technologies Activities Outstanding Volunteer - Dr. Bijoy Antony Jose
  - o India Council Lifetime Achievement Section Chair Award by Prof. V K Damodaran
  - o India Council Outstanding Volunteer Award by Er. Suhair A
  - o India Council Outstanding Young Professional Volunteer Award by Prof. Shankar Jayaraj
  - o India Council Outstanding Young Professional Volunteer Award by Mr. Akash P Nambiar
  - o India Council Outstanding Student Volunteer Award by Mr. Shylesh S
  - o India Council Outstanding Student Volunteer Award by Mr. Anagha N
  - o EEE MGA DARREL CHONG GLOBAL STUDENT ACTIVITY AWARDS
    - ▪ Gold Category : "IEEE Student Quality Improvement Programme 2019" - CE Chengannur
    - ▪ Silver Category : "EMPNEO 3.0" - Model Engineering College, Kochi
    - ▪ Bronze Category :
      - ● "Kaizen 6.0" - College of Engineering, Munnar
      - ● ".hack();" - Mar Athanasius College of Engineering, Kothamangalam
      - ● "42 - Technical Flagship Event" - Govt Engineering College, Barton Hill
      - ● "Lighting for Humanity" - College of Engineering, Karunagappally
  - o R10 Exemplary Student Branch Award
    - ▪ Adi Shankara Institute of Engineering and Technology
    - ▪ St.Joseph's College of Engineering and Technology, Palai
    - ▪ College of Engineering Chengannur
    - ▪ Rajiv Gandhi Institute of Technology Kottayam
    - ▪ Government College of Engineering - Kannur
    - ▪ College of Engineering - Karunagappally
    - ▪ NSS College of Engineering - Palakkad
  - o IEEE Undergraduate Teaching Award 2019
    - ▪ Dr. Rajesh Kannan Megalingham (Amrita Vishwa Vidyapeetham University, Kollam)
  - o 2020 MGA Outstanding Branch Counselor & Branch Chapter Advisor Award
    - ▪ Prof. Haseena P. Y. (College of Engineering Karunagappally)

A.2 Financial Report – (Please follow the format given below)

IEEE

IEEE : Region 10 : Region 10 INR

Balance Sheet
End of Dec 2020

Financial Row	Amount
Current Assets	
Bank	
70199 - Indian Overseas Bank KERALA	Rs.15,872,219.87
72242 - KERALA Petty Cash	Rs.813.00
Total Bank	Rs.15,873,032.87
Total Current Assets	Rs.15,873,032.87
Current Assets Less Current Liabilities	Rs.15,873,032.87
Total Assets Less Current Liabilities	Rs.15,873,032.87
Total Assets Less Total Liabilities	Rs.15,873,032.87
Capital and Reserves	
Retained Earnings	Rs.7,827,571.39
Net Income	Rs.8,045,461.48
Total Capital and Reserves	Rs.15,873,032.87

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

- Total number of active members in the past 3 years.

Member Grade	2018	2019	2020
Student Member	6647	7275	6705
Graduate Student Member	399	371	392
Member	821	978	894
Senior Member	143	169	207
Life Member	15	18	25
Associate Member	35	41	32
Total	8060	8852	8255

- 2nd Largest Section in India, 4th Largest Section in Region 10, 6th Largest Section in the world !
- Organized Membership development sessions at 75 student branches each of the session with a participation of more than 100 students
- Conducted industry interaction programs at various companies which helped in the recruitment of professional members.
- Training on OU analytics was given to Section Society Chapter office bearers, branch counsellors and student branch office bearers
- Almost achieved the retention goal for the year 2020

B.2 Chapter Activities

- Total number of Chapters in the Section : **12**
- Number of Chapters formed in the current year : NIL
- Number of active Chapters (Chapters who have reported required number of meetings during the year) : **12**
- Summary of Chapter activities (Chapter wise with attachment table/information)

APS

Date	Event
27 Feb - 4 Mar, 2020	DLP and Technical workshop at CUSAT: Frontiers in RF Communications and Circuit Design
4th Aug 2020	Webinar: Importance of Electromagnetics
16th Aug 2020	Webinar: Basic to recent developments in antenna technology
22nd Aug 2020	Microwave Metamaterials for Future Communication (5G and Beyond)
29th August, 2020	Webinar & Panel discussion: Flexible Wearable Disposable Wireless Communication and Sensing Systems Through Additive
30th Aug 2020	Webinar: Development of Body Worn Antennas and Their Challenges
5th Sept 2020	Substrate Integrated waveguide for microwave and Millimeter Wave frequencies
13th Sept 2020	Webinar: Webinar on Design and Implementation of High Performance Microwave Filters and Filtering Antennas
18- 20 Sept, 2020	All Kerala Students Conclave
27 th Sept, 2020	Webinar: A Overview of Ultra Wide Band Antenna Design with Pattern and Polarization Diversity Characteristics
4th October, 2020	Webinar: On the Electromagnetic Energy Around Antennas: Current Research and Future Directions
11th Oct, 2020	Webinar: Recent Advancements of Research in Metasurface for High Frequency Applications

17th Oct, 2020	Webinar: Studies on the Design of Frequency Selective Surfaces
24th Oct, 2020	Webinar: Planar Balun and its Application in Active Circuits and Antennas
07th Nov, 2020	Webinar : Frequency Selective Surface and its Applications
14 – 16 Dec 2020	17th International Symp on Antennas and Propagation (APSYM-2020)

CAS

Date	Event
April 2020	Release of Documentary on "Landslides18 Kerala
28th June,2020	Circuit Designing competition, "ELECTRONOVA"
11-15 Aug ,2020	Lecture series on circuits and systems solid state devices
14th-18th Sept	Lecture series on circuits and systems network theory
	Circuitrix
	Symposium on Landslides of Kerala
	MAVRECC 2020- Make a virtual repository of electronic components
31st Oct,2020	Webinar on Diffraction, Polarisation and Resolving Power
1st Dec 2020	Lecture on Maxwells equations and Predictions in LBS college of Engineering ,
Dec 11-31,2020	SLIGHT 2020- Shed light on basics - IEEE WiCAS initiative

CS

Date	Event
18th July 2020	Webinar on "Web Security"
19th July	"Mindcrypt" - a game based on the idea of crypto game
25th July	Webinar on Cyber Threat Intelligence
25th July	Informal - "CODE A PIC"
27th July	Webinar on "Fighting Fraud"
29th July	Webinar on "Of Covid scams, state-sponsored scans, and app bans: Recent developments in Cyber Security"
8 August	Webinar on "Privacy Preserving Protocols for Distributed Ledgers"
12 August	Webinar on "Can Blockchain save our cities?"
20th August	Webinar on "Be treated like a VVIP during your travels -Can it be reality?"
28th August	Webinar on "Behind the hype – Blockchain"

COMSOC

30th April 2020	Webinar on "Discover the Sigfox 0G Technology"
12/06/2020	Webinar on "Communication Trends and COVID 19
22nd July 2020	Tekkutoku Inauguration
2/08/2020	Tekkutōku Session on "Prepare yourself for a career in Cyber Security"
29 /09/2020	Webinar on "Space Technology and its Applications"
Oct 2020	Article Writing Competition on"Big Data Analytics and Machine Learning in Wireless Communication"
7th Oct 2020	Virtual DLP on "Machine Learning for Wireless Communication System
18 /10/2020	Webinar on"Non- Orthogonal Multiple Access (NOMA) for 5G and Beyond
25th Octr 2020	Webinar on "Natural Language Generation in Artificial Intelligence"
10th Nov 2020	VDLP on Physical Layer Fingerprinting by Design Layer Authentication & Security
12th Dec 2020	Tekkutoku session on"Prepare yourself for a career in AI"
June13 2020	GRADUATE CONGRESS: GraTE'7' Graduate Thesis Evaluation in 7minute

EMBS

Date	Event
Feb 23	BME QUIZ 2020
Apr 27	Essay Writing Competition
Jun 5-8	SYNAPSIS'20
Dec 10	Blaze Quiz
Dec 10-13	IEEE EMBS Conclave 2020
May 26	Webinar on 'Core Biomedical Companies and Startups: All you need to know' and 'Covid and Post Covid: the skills required'

Jun 13	Webinar on 'Essential Job Skills for Biomedical Engineers'
Aug 1	Webinar on 'EMBS and its benefits
Oct 3	Elixir - The Biomedical Quiz.
May 2	WEBINAR on 'IEEE EMBS Membership development and the benefits of EMBS and IEEE Membership'
Mar 6	Visit to SCT Institute of Medical Sciences & Technology Open Day by TKMIT
Oct 10	WEBINAR ON N95 MASKS
Nov 27-Dec 7	SPECTRUM TALKS
May 18	IEEE EMBS STUDENT BRANCH CHAPTER FORMATION AT MBCET
Aug 10-12	GENESIS

GRSS

Date	Event
Dec. 18 –20, 2020	IEEE GRSS India Young Researchers Conclave 2020
11 Sept. 2020	Geospatial Start-ups - Academia: Seeding, Nurturing and Growing
25 Sept. 2020	Network and Training- Geospatial start-ups, Students and Freelancers
Oct 1 - Dec 31 20	Programming Approaches in Remote Sensing (PARSE)

IA/IE/PEL

Date	Event
21-03-2020	Webinar : Kerala Section Jt. Chapter, IE13/IA34/PEL35
29-03-2020	Read a book, Conoscenza -discover knowledge through reading : IE13/IA34/PEL35
31-03-2020	Professional execom meeting : Kerala Section Jt. Chapter, IE13/IA34/PEL35
01-04-2020	Chairs Meet : Kerala Section Jt. Chapter, IE13/IA34/PEL35
06-04-2020	Webinar : How to organise a quality IEEE Int Conference : IE13/IA34/PEL35
11-04-2020	Advisors training : Kerala Section Jt. Chapter, IE13/IA34/PEL35
13-04-2020	Webinar on Integrated battery chargers for electric vehicles: IE13/IA34/PEL35
25-04-2020	Webinar on "Writing Quality Technical Papers" : IE13/IA34/PEL35
30-04-2020	webinar on Discovering IEEE Collabratec : Kerala Section Jt. Chapter,
02-05-2020	Webinar On PCB Design Using Eagle : KS Jt Chapter IE13/IA34/PEL35
10-05-2020	Webinar on 'Analytical modeling of Modular multilevel converters & Circulating current control' :
11-05-2020	PI controller design in closed loop operation of separately excited DC motor
18-05-2020	Webinar on " Differential Power Processing DC-DC Converters for Solar Photovoltaic Applications " : Kerala Section Jt. Chapter, IE13/IA34/PEL35
23-05-2020	Webinar on 'Solid State Transformers and Their Applications in High Power Renewable Energy Systems' : Kerala Section Jt. Chapter, IE13/IA34/PEL35
28-05-2020	IVTec Review Meeting : Kerala Section Jt. Chapter, IE13/IA34/PEL35
04-06-2020	Webinar on High Performance Speed Control of AC Drives : Kerala Section Jt. Ch.
05-06-2020	Advanced Safety Architecture for Automotive Systems : Kerala Section Jt. Chapter,
11-06-2020	Webinar on Utility Grade Power Electronics towards a Green Future
12-06-2020	IVTec : Kerala Section Jt. Chapter, IE13/IA34/PEL35
20-06-2020	IEEE-PELS day webinar : Kerala Section Jt. Chapter, IE13/IA34/PEL35
08-07-2020	Webinar on "Research Proposal and Grant Proposal Writing" :
29-07-2020	Webinar on 'AC and DC microgrid control for offshore wind applications' :
12-08-2020	Webinar on "Artificial Intelligence models for Solar Applications" :
26-08-2020	Workshop series : Kerala Section Jt. Chapter, IE13/IA34/PEL35

27-08-2020	Webinar on Medium voltage Adjustable speed drives Upgrade : Kerala Section Jt.
11-09-2020	Vervecon Inauguration : Kerala Section Jt. Chapter, IE13/IA34/PEL35
13-09-2020	WIE workshop : Kerala Section Jt. Chapter, IE13/IA34/PEL35
16-09-2020	Webinar on "Design for reliability in Power Electronic Systems"
27-09-2020	WIE Program,(Vervecon) talk : Kerala Section Jt. Chapter, IE13/IA34/PEL35
10-10-2020	IEEE day celebration : Kerala Section Jt. Chapter, IE13/IA34/PEL35
11-10-2020	AKIASSC 2020 Review meeting : Kerala Section Jt. Chapter, IE13/IA34/PEL35
17-10-2020	Workshop on "DESIGN OF FORWARD CONVERTER" : Kerala Section Jt. Chapter,
26-10-2020	WIE workshop : Kerala Section Jt. Chapter, IE13/IA34/PEL35
30-10-2020	Webinar on " PWM techniques for Dual Inverter Drives for EVs ", IE13/IA34/PEL35
05-11-2020	AKIASSC 2020 Review meeting : Kerala Section Jt. Chapter, IE13/IA34/PEL35
13-11-2020	Webinar on Switched Reluctance Motors: Past, Present and Future :
05-12-2020	Session on IEEE Networking in association with IAS CMD
6-12-2020	All Kerala Project competition in association with IAS SBC Jyothi Engg. College
10-12-2020	H4H Problem Solution valuation meeting

MTTS

11th Jan 2020	IEEE MTT-S Kerala Execom meeting
23rd Jan 2020	Seminar on 'Electromagnetics in MIMO antennas for future networks' and 'Antennas for Satellite tracking'
24th Jan 2020	Seminar on Electromagnetics in MIMO antennas for future networks
28- 29th Feb 2020	Two day workshop on "Antenna Design, Analysis, Optimization and Integration with ANSYS HFSS"
25th-30th May 2020	Webinar on 'RF MEMS for Future Wireless Communications'
29th May 2020	Webinar on Modern Avionics Systems in Aircrafts
7 - 9th Aug 2020	3 Day Workshop on 'Introduction to Adobe Photoshop'
20th August 2020	Webinar on 'Antennas for UWB Channel modelling and Body Centric Wireless Communication Services'
28th August 2020	Webinar on 'Six-port receivers for high data rate wireless communication and radar applications'
29th August 2020	Webinar on 'Flexible, Wearable, Disposable Wireless Communication and Sensing Systems through additive manufacturing' by and Panel Discussion
29th August 2020	Webinar on 'Design of Microwave Filters'
19th Sept 2020	Webinar on 'Electrically small antennas: Challenges and Solutions'
31st Oct 2020	Webinar on 'Multi-conductor Transmission Line Theory its Applications to Modern Metamaterials'
17th Sept 2020	Role of MTT-S volunteers in shaping the future of engineering students post COVID-19
17th Sept 2020	Energy Efficient Simultaneous Wireless Backscatter and Power Communications
26th Sept 2020	Design and innovation: Sensors, Antennas and Systems
12th Oct2020	From Engineering Electromagnetics to Electromagnetic Engineering (APS DL)
17th Oct 2020	Lecture on 'Strategies for the integration and Packaging of millimetre wave CMOS' and 'Satellite systems for emerging telecom applications' L4 Panel discussion

PES

1	XTRACK-SPAA
2	Luxathon -CoE Karunagappally
3	Robosanitizer Challenge Webinar

4	Webinar on Power and Energy Trends-1,renewable energy, dynamic grids, dynamic on and off grid systems, energy storage, upcoming technologies in Power & energy , energy management
5	Webinar on IEEE Student Activities Awards
6	Webinar on Power and Energy Trends-3, On and Off grid dynamic power systems
7	Webinar on IEEE PES Day R10-Robosanitizer Challenge
8	Robo sanitizer Challenge- Phase 2
9	Webinar on Electric Vehicles
10	Webinar on Augmented Reality and virtual reality
11	Powertalkz- Student track topic:Strategies to improve power system resilience
12	Webinar on Engineering in Healthcare and Public Health
13	Panel Discussion Topic: How Engineers Can Contribute to Society
14	Powertalkz- Student track topic:Power Electronics Switching Devices in Power System
15	Webinar on Home Energy Audit Contest
16	Webinar : Deep Learning Master Class
17	Powertalkz- Student track topic:Wireless Power Transfer System
18	Webinar: Lessons to Learn from April 5 Lights OFF
19	Webinar- OPPORTUNITIES IN PES SB CHAPTER & HPSBCP REPORT PREPARATION
20	Powertalkz- Student track topic:Cyber Security in Smart Grid
21	Webinar on Enhanced Employment Opportunities of PES Members
22	Renovar: Program to revive dormant chapters
23	Webinar on Artificial Intelligence in Medical Field
24	Powertalkz- Student track topic:Protective Devices
25	Final Round: Home Energy Audit Contest
26	Powertalkz- Student track topic:Audio Spotlight
27	Webinar on Trending Digital Technologies in Renewable Power Sector
28	Webinar on Home Automation
29	Webinar on 'Control and Tracking of Bio-inspired Multiple Unmanned Arial Vehicles'.
30	Powertalkz- Student track topic:5G future and the role of satellites
31	ORION techfest
32	Webinar on Spacecraft Power System
33	Powertalkz- Student track topic: DC-DC Converters
34	Powertalkz- Student track topic: Wireless Power Transfer
35	Powertalkz- Student track topic: Overview on smart substations
36	webinar on IEEE Travel Grants and My Travel Experience
37	Powertalkz- Student track topic: Blockchain in Energy sector
38	DLP on the smart city building blocks and their synergy with smart villages
39	Powertalkz- Student track topic : Digital Marketing
40	Powertalkz- Student track topic : Cyber Threats in Future
41	IEEE PES MD Session SCTCE, COE Cherthala, NSS CE, VJCE, ViswaJyothi, JCET
42	WiP Student Representatives Meet
43	Powertalkz- Student track topic: Economic aspects of solar off grid systems
44	Powerscope Vol 2 release
45	How to execute Successful Btech projects: Mechanical and Allied Branches, Electrical and Electronics Engg, Computer Science and IT, Electronics and Communication Engg and allied
46	Webinar : INSIGHT-introduction to Smart Grids
47	Webinar : INSIGHT – Basics of Solar Power

48	Powertalkz- Student track topic: Renewable Energy
49	IEEE PES MD Session GEC Idukki, CETkr, RIT Kottayam, RSIET

RAS

Date	Event
20/02/2020	RAS Virtual Meetup
16/03/2020	Webinar on Space Robotics: Challenges and Opportunities
02/04/2020	Webinar on Introduction to Robotic Operating System (ROS)
01/04/2020	Code in Lockdown- 15 day national level online coding challenge
22-29 Apr 2020	SIMHACK- Arduino challenge
28 Apr - 4 May	Training Session on Robotics
14-20 Apr 2020	Workshop on Robotic Operating System (ROS)
29/05/2020	Webinar on Introduction to free RTOS
1-3 Apr 2020	Electronic Design Automation using Verilog HDL (Online Workshop)
8-10 Jun 20	RTL Verification(Online Workshop)
10/07/2020	Enclosure Design for Electronic Products – Using 3D CAD (Webinar)
27-30 Jul 20	Online workshop on Introductory Concepts of Machine Learning by Er. Sibin Sam,
9/10/2020	Webinar on" Designing Robotic Systems Overview, Challenges, Skills and Nuances" by Mr. Kesava Prasad, Director at VerifygnTech Pvt Ltd.
17/10/2020	Webinar on" Robotic Operating Systems and its future in Autonomous Vehicles" by Er. Revathi T.S., Technical specialist in Automotive domain, TataElxsi
21/10/2020	Webinar on "The value of IEEE publications in Research and Career Development" by Mr. Nanda Lal T.S., Senior Training Manager at EBSCO Information Services
27/10/2020	Webinar on "Mobile Robotics with Matlab and Simulink" by Dr.Dhruv Chandel,
29/10/2020	Webinar on "How to publish a quality Technical Paper with IEEE" by Dr. Dhanukumar Pattanashetti, Senior IEEE Client Services Manager,
7/11/2020	Webinar on "Introduction to Machine Learning" by Er.Deepa Mohan,
21/11/2020	Webinar on"AI in Robotics" by Er.Sibin Sam,Development Engineer, Siemens,
3-7 Dec 2020	INSIGHT IN 20

SPS

Sl	Event
1	Workshop on Scientific Computing
2	Online/Offline Classes by SPS
3	Signova 20
4	Webinar on "Ability and Inability of Artificial Intelligence" by Dr Saikat Chatterjee, Associate Professor, KTH Sweden

SSIT

Date	Event
28 Mar 2020	Administrative Meeting - Activities Planning and Discussion
13 June 2020	IEEE SSIT Members Meetup - Kerala
17 Aug 2020	SSIT Webinar - INDIA in the age of COVID-19, Aadhaar, Population Explosion, Urbanization and Climate Change; Challenges, Opportunities and the Social Implications of Science and Technology
5 Dec 2020	Session - Global Himalayan Expedition Electricity in the Himalayas, Sustainability and livelihood generation

B.3 Professional and Continuing Education Activities
- International Conferences - PESGRE 2020, RAICS2020, IPRECON 2020
- Workshops - R10 POCO, BGB 2020
- 52 Webinars/ Seminars on all Wednesdays in association with peer societies.
- Webinar Series on "Accreditation and Quality of Engineering Education- from an ABET Perspective" organized in association with APJAKTU - 3 Webinars on: 8th - 15th and 22nd May 2020 [Dr. S. K. Ramesh, Professor of Electrical and Computer Engineering - California

State University, Northridge, USA; Director of the Engineering Area Delegation of ABET - ABET Board of Directors]
- Webinar on Engineering Education in Post Covid Era - Opportunities and Challenges for Faculties [Shinto Joseph, Director- South East Asia Operations,LDRA Technology Pvt. Ltd]
- Conducted 3 events and an event on Industry 4.0 is in the planning phase.
- Launched a mutually beneficial support program in association with Maker Village.
- With this program we could provide mentorship to 10 startups incubated in the Maker Village.
- Mentors repository created specifically for this purpose.
- The Section is also helping Maker Village to improve the utilisation of the resources available with them by creating avenues of collaboration with the MSME and Student Community.
- Professional Webinars
  - April 30, 2020: Finance for Non-finance managers (Attended by 90)
  - May 7, 2020   : Think Free Break Free (115)
  - May 12, 2020 : Life is Beautiful: Believe it or Not (60)
  - June 4: 2020: Future of Manufacturing post Covide (140)

Date	Event
Jan 2	Standards
Mar 5	National and International Standards
Mar 21	Major project execution and report presentation for B Tech final year students
Apr 4	How to organize a quality intl. Conference
May 5	Learning and Planning from India's historical event – Impact of Lights off on 5th April 2020 on Grid Stability
May 10	Home Energy Audit
May 21	Lessons learn from Apr 5 lights off
May 31	Home Energy Audit Report presentation by UG Students.
June 2	Let us hear from the Senior most IEEEans of Kerala Section
June 5	Advanced Safety Architecture for Automotive Systems
June 9	Home Automation
June 28	Home Energy Audit Report presentation by GSM & Professionals
June 30	Shaping the future of Energy with Microgrids
July 5	Let us hear from the Most Senior IEEEans of Kerala Section
July 8	Research proposal and Grant proposal writing
July 26	Carrier Options after +2
Aug 6	DLP on The Smart City Building Blocks and their Synergy with Smart Villages
7 – 13 Sept	FDP on "Modern Control Techniques for Power and Energy Systems"
18 – 21 Sept	Opportunities and Challenges in Engineering Education
Oct 17	Significance of IEEE Day 2020
Oct 17	Robotic Operating Systems & its future in Autonomous Vehicles
15 Nov	Re-imagining Engineering Education under Uncertain Environments
!3 Dec	Let us hear from the Senior most IEEEans of Kerala
27 & 28 Dec	School Seminar Series Kerala

B.4 Students Activities
- Total number of Student Branches in the Section : 104
- Number of Student Branches formed in the current year : 5
- Section level student activities (student congress, paper and other contests, awards etc)
  https://ieee-link.org/linkline/2020/e1/
  https://ieee-link.org/linkline/2020/e2/
  https://ieee-link.org/linkline/2020/e3/
- Number of active Student Branches (Student Branches who have reported required number of meetings during the year): 81

- Summary of Student Branch activities (Student Branch wise with attachment table/information)
  https://docs.google.com/document/d/1CjSRzoJx4AfWSyBLfRG6-ZxvEcrfGSxLLFOsQvDPu-U/edit?usp=sharing

B.5 Affinity Group Activities

- **Young Professional (YP)**

Event Date	Event Title
16-01-2020 09:00	Workshop On Scientific Paper Writing And Review Process
18-01-2020 09:00	Workshop On Data Analytics Using Stat Craft
25-01-2020 13:00	Yp Track During Excelsior 2020
27-01-2020 09:00	Workshop On Ipr: Patent, Copyright And Trademark
27-01-2020 18:30	Young Professional Executive Committee Meeting
09-02-2020 9:00	Launch Of #Proudieeeyp Campaign
09-02-2020 9:00	Yp Team 2020 Meetup
09-02-2020 9:30	Inauguration Of Ieee Kerala Yp Blog
12-02-2020 20:30	Webinar Of Cryptocurrencies
05-03-2020 11:00	Yp Interaction At Ma College
15-03-2020 20:00	Webinar On Lorawan Future Of Iot
05-04-2020 18:00	Preliminary Round-confero-a Virtual Debate
11-04-2020 19:00	Pre-finals Round-confero-a Virtual Debate
13-04-2020 19:00	Final Round-confero-a Virtual Debate
23-04-2020 16:00	Panel Discussion On Post Covid Changes In Technology Job Market
25-04-2020 20:00	Webinar On Sustaining 9 Minutes At 9
28-04-2020 16:00	Webinar On Sight Day
28-04-2020 18:00	Webinar On Machine Learning
02-05-2020 15:15	Emerge 2020- Virtual Summit
09-05-2020 19:00	Webinar On Solo Riding:Roadmap For Ladies
10-05-2020 20:00	Yp Team Virtual Meetup
16-05-2020 18:00	Webinar On Cloud Computing
21-05-2020 18:00	Webinar On Professional Pcb Design And Manufacturing
23-05-2020 14:00	Yp Talks On Web Development
23-05-2020 15:00	Yp Talks On Introduction To Data Science In Python
23-05-2020 19:30	Webinar On Digital Marketing
24-05-2020 10:00	Yp Talks On Python: Django
24-05-2020 10:00	Yp Talks On Web Designing
24-05-2020 10:00	Step 2020
28-05-2020 18:00	Yp Talks On Ham Radio
30-05-2020 18:00	Yp Talks On Introduction To Machine Learning Using Python
07-06-2020 16:00	Yp Talks On Basics Of Ar/Vr
14-06-2020 17:00	Yp Talks On Industry Expectations From A Software Engineering Fresher
14-06-2020 19:00	Yp Talks On Data Science In Python
16-06-2020 19:00	Yp Talks On Augmented Reality & Virtual Reality
17-06-2020 18:30	YP Talks on Introduction to data science and ML
20-06-2020 19:00	YP Talks on Entrepreneurship
21-06-2020 19:00	YP Talks on Preparing for Multiple Careers
23-06-2020 15:00	YP Talks on Software Behinds Robots; Robotics Process Automation

26-06-2020 19:00	YP Talks on Cloud Computing and Introduction to AWS
27-06-2020 19:00	YP Talks on Project Ideation and Development
28-06-2020 19:00	YP Talks on Regulatory Affairs and Compliance of Medical Devices
29-06-2020 15:00	YP Talks on Augmented Reality & Virtual Reality
04-07-2020 16:00	YP Talks on Membership Developments of IEEE
04-07-2020 18:30	YP Talks on Introduction to Web Development
05-07-2020 18:00	Webinar on Introduction to Blogging

- **Women In Engineering (WIE)**

March 28	Webinar on "Safe Search ON" Deepika Suri IPS
Jun 20	SHELEADS #1Inaugural Session - Dr. Liza Lazareck - Asunta
May 3	Self Care - Through Emotional Awareness" - Mrs Prema Sankar
July 18	SHELEADS #2 " Fighting the invisible COVID 19" - Dr Gita Nair
Jun27	Increased screen time during COVID 19- does it hurt your eyes? - Dr Aneeta Jabbar
Jun 25	Enhancing Member Engagement of women in IEEE PES WiP and WIE to foster Research and innovation
July 16	"Gender Differences in Electricity consumption" - Dr.ZuhainaZakaria, UniversitiTeknologi Mara, Malaysia
Aug 2	Adtech- the world Behind Digital marketing- Dr Bindu Narayan
Aug13	Assistive Technologies: A pathway to meaningful Engineering - Dr Ramalatha Marimuthu
Aug21	Mental Awareness for general well Being - Mrs Prema Sankar
Aug 24	WOW #4 " Classification of covid 19 Infected Lung with the help of chest radiography images
Oct17	SHELEADS #3 "Lessons in Leadership - Mrs Manju Abraham delphix Corp
Oct 17	Webinar on " Early Detection and Prevention of Gynaecological cancers Dr Vaishali Bhalerao- St Vincent Hospital, Melbourne, Australia
Sept10	WOW# 5 "Overview of Brain Computer Interface- Dr subasree , NIMHANS
Sept 29	WOW#6 "Women Empowering the Greener Future with the impact of Sustainable Er Simay Akar, Innose- Ruiyi Renewable Energy Technology
Oct 15	WOW# 7 "VENTILATOR- A Supporting system for human life" - Dr Smita V, SCTIMST
Oct 29	WOW# 8 " Automation, artificial Intelligence i n Banking" - Er Dhanya Sivasankaran, BNP Paribas Singapore
Nov12	WOW#8 " Black Start Planning Considering Impact of Renewable Energy" Dr Tina Chou, Principal Consultant in interGrid"
Nov 19	WOW# 10 "Seizing Opportunities For Your Future" - Dr Ruomei L, Global Chair WiP
19-22 Dec	Women in Engineering summit 2020 - WIES 2020
Jan 8	WOW# 11 " Learnings from 2020- Leaders and industry" - Er Sarada Jayakrishnan, Chair Kerala Section

- **Life Member (LM)**
  - o 15 Apr 2020 - Webinar: "Engineers, COVID19 and War on Pandemics" by Prof. V K Damodaran
  - o 2 June 2020 7 pm - Let us hear from the senior most IEEEans of Kerala along jointly with Educational Activities
  - o 2 July 2020 8 pm - Technical talk on Electronics Equipment on board Locomotives by V Sadasivan, Director Technical of Advanced Rail Controls,
  - o 5 July 2020 6:30 pm - "Let us Hear from the Senior most IEEEans of Kerala - part 2" jointly with Educational Activities
  - o 13 December 2020 7 pm - " Let us hear from the senior most IEEEans of Kerala part 3" jointly with Educational Activities.

B.6 Awards & Recognition Activities

- **Award constituted by the Section** [Details]
  - o K P P Nambiar Award

- Dr. M S Valiathan, (Founder-Director, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum) In recognition of his outstanding contributions to the development of medical technology in the country, as well as for establishing the organizations necessary for associated research and propagation of these technologies in an internationally-recognized and sustainable manner.
- o Outstanding Woman Engineer
  - Ms. Rameetha K (Naval Physical and Oceanographic Laboratory (NPOL), Kochi) In recognition of her outstanding contributions to initiatives of national importance through technological innovations, thereby inspiring young women within the engineering profession.
- o Outstanding Industry Contributions Award
  - Mr. C Balagopal (Founder and former CEO of Terumo Penpol Ltd. and Founding Trustee ANAHA Trust) In recognition for courageously choosing to set up an industry in the state and fostering it to international standards, and also for supporting the development of the startup ecosystem in the state.
- o Friend of IEEE Awards
  - Individual - Mr. Prasad B Nair (CEO, Maker Village, Kochi) In recognition of his significant contributions to the advancement of the startup ecosystem in Kerala through MakerVillage and for his valuable outreach activities to the Student Community including IEEE Student Members.
  - Institution - Cochin University of Science and Technology (CUSAT) In recognition of the sustained and significant support to IEEE's activities over a considerable period of time.
  - Institution - National Institute of Technology (NIT) Calicut in recognition of the substantive support and encouragement of IEEE's activities and programs within the institution.
- o Outstanding Teacher Award
  - Dr. Bijuna Kunju (Professor, Dept. of Electrical & Electronics Engg., TKMCE, Kollam) In recognition of her three decades of exemplary teaching and mentoring of students and for inculcating professionalism and societal commitments to the students.
  - Dr. Dhanaraj K. J, (Assistant Professor, Dept. of ECE, NIT Calicut) In recognition of his work that has enhanced student success through the development and dissemination of innovative teaching and assessment practices.
- o Outstanding Researcher Award
  - Dr. B S Manoj (professor, Dept of Avionics, IIST, Trivandrum) in recognition of his significant technological innovations in the field of wireless communications and software defined networks.
- o Outstanding Startup Award
  - Genrobotic Innovations Pvt. Ltd - In recognition of the successful development of an outstanding product aimed at solving the social problem of manual scavenging and for upholding the vision of IEEE of 'Advancing Technology for Humanity'.
- o Section Volunteer Awards
  - Outstanding Volunteer Award - Mr. Shankar Jayaraj (UKF CET Kollam)
  - Outstanding WIE Volunteer Award - Ms. Jiby Krishna K G (Agappe Diagnostics Ltd)
  - Outstanding Humanitarian Volunteer Award - Mr. Rejin Narayanan (Ingen Robotics)
  - Outstanding Humanitarian Volunteer Award (Spl. Mention)- Mr. Albin Paul (DentCare)
  - Special Volunteer Award for Strategic Industry Contributions - Mr. Varghese Cherian.
  - Outstanding YP Volunteer Award - Ms. Juliana Biju (KEDGE BSchool, France)
  - Outstanding YP Volunteer Award - Mr. Akash Nambiar (UST)
  - Special Volunteer Award for Technical Contributions - Mr. Midhun C (NeoGreen Labs)
  - Best Event (Professional) - Emerge 2020
- o Student Volunteer Awards
  - Outstanding Student Volunteer - Ms. Ameera Sherin (RIT, Kottayam)
  - Outstanding Student Volunteer - Mr. Ruben Mathew (CE Chengannur)
  - Outstanding Student Volunteer (Special Mention) - Mr. Joel John Kandathil (Amal Jyothi College of Engineering, Kanjirappally)
  - Outstanding Student Volunteer (Special Mention)- Mr. Sreejel C Anil (MACE Kothamangalam
  - Outstanding Student WIE Volunteer - Mr. Jetson Joseph (VJCET)

- ▪ Outstanding Branch Counselor - Ms. Vijitha S (NSS E, Palakkad)
  - ▪ Outstanding Branch Counselor - Dr. Arun P (SJCET, Palai)
  - ▪ Outstanding Student Branch - Rajagiri School of Engineering and Technology, Ernakulam
  - ▪ Outstanding Student Branch - SCT College of Engineering, Trivandrum
  - ▪ Emerging Student Branch - Jawaharlal College of Engineering & Technology, Lakkidi
  - ▪ Best Event (Student) - V-FIESTA 2020, WIE Colloquium
- **Please list all Awards and Recognitions received by the Section, and members in the Section, from R 10 and IEEE HQ during the year**
  - o MGA Outstanding Large Section Award 2020
  - o 2020 MGA Achievement Awards by Dr. Suresh Nair
  - o IEEE Undergraduate Teaching Award 2019
    - ▪ Dr. Rajesh Kannan Megalingham (Amrita Vishwa Vidyapeetham University, Kollam)
  - o 2020 MGA Outstanding Branch Counselor Award
    - ▪ Prof. Haseena P. Y. (College of Engineering Karunagappally)
  - o R10 Life Member Outstanding Volunteer Award by Mr. Hareendralal A G
  - o R10 Outstanding Volunteer Award 2020 by Dr. S M Sameer
  - o R10 Young Professional Outstanding Volunteer Volunteer in Academic by Prof. Nandan S
  - o R10 Humanitarian Technologies Activities Outstanding Volunteer Awar - by Dr. Bijoy Antony Jose
  - o India Council Lifetime Achievement Section Chair Award by Prof. V K Damodaran
  - o India Council Outstanding Volunteer Award by Er. Suhair A
  - o India Council Outstanding Young Professional Volunteer Award by Prof. Shankar Jayaraj
  - o India Council Outstanding Young Professional Volunteer Award by Mr. Akash P Nambiar
  - o India Council Outstanding Student Volunteer Award by Mr. Shylesh S
  - o India Council Outstanding Student Volunteer Award by Mr. Anagha N
  - o Richard E Merwin Scholarship
    - ▪ Abhishek S , College of Engineering, Trivandrum (CET)
    - ▪ Akash Nair, College of Engineering Adoor
  - o EEE MGA DARREL CHONG GLOBAL STUDENT ACTIVITY AWARDS
    - ▪ Gold Category: "IEEE Student Quality Improvement Programme 2019" - Chengannur College of Engineering
    - ▪ Silver Category : "EMPNEO 3.0" - Model Engineering College, Kochi
    - ▪ Bronze Category :
      - ● "Kaizen 6.0" - College of Engineering, Munnar
      - ● ".hack();" - Mar Athanasius College of Engineering, Kothamangalam
      - ● "42 - Technical Flagship Event" - Govt Engineering College, Barton Hill
      - ● "Lighting for Humanity" - College of Engineering, Karunagappally
  - o R10 Exemplary Student Branch Award
    - ▪ Adi Shankara Institute of Engineering and Technology
    - ▪ St.Joseph's College of Engineering and Technology, Palai
    - ▪ College of Engineering Chengannur
    - ▪ Rajiv Gandhi Institute of Technology Kottayam
    - ▪ Government College of Engineering - Kannur
    - ▪ College of Engineering - Karunagappally
    - ▪ NSS College of Engineering - Palakkad
  - o IAS CMD Outstanding Chapter Award Results
    - ▪ Vimal Jyothi Engineering College (VJEC) IAS Student Branch Chapter
  - o IAS Outstanding Chapter Advisor
    - ▪ Prof Sabeena K, College of Engineering Karunagappally IAS Student Branch Chapter Advisor
  - o IAS CMD Chapter Web Contest 2020
    - ▪ Kerala Section Jt. IAS, IES & PELS Chapter
  - o IAS CMD Most Happening Chapter Contest 2020
    - ▪ UKF College of Engineering and Technology IAS Student Branch Chapter
  - o PES Most Happening Chapter Contest 2020
    - ▪ IEEE Kerala Section Chapter

B.7 Communication Activities (Newsletter, Home Page, E-mail etc.)
- ● Newsletter (name and number of issues in the year)

□ IEEE Kerala Section newsletter: 4 Issues. Three issues as electronic copy and 4th one as electronic and print copy

- Home Page of the Section (give the URL and how often it is updated)
  □ https://ieeekerala.org
  □ Regularly updated to report the events as and when they happen.
- Other means of contacts with Section members including social media
  □ Facebook: facebook.com/IEEEKerala
  □ Twitter: twitter.com/IEEEKerala
  □ Instagram: Instagram.com/ieeekerala
  □ LinkedIn: linkedin.com/company/ieeekerala
  □ Youtube: youtube.com/ieeekerala

B.8 Industry Relations

- Most of the Society chapters conducted professional and continuing education activities for the members from Industry

- A new "Strategic Initiative on Industry Engagement" has been launched to improve the relationships and collaboration with the Industry,

- Formation of a Student Activities Board with members from both Industry and Academia to bridge the gap between what is required in the Industry and the deliverables from Academia.

- Special Awards are given to IEEE Members and Non Members based on their Industrial contribution. Awards are also given to Industries/organisations, which support IEEE Kerala Section in Industry Academia Interaction Activities.

- Events reported in Section B.2 and B.3 of this document engage industry experts or expose the IEEE members to the industry,

B.9 Humanitarian Technology Activities

- RESPONSE TO COVID - 19 ("BreathOHope") - The Breath of Hope team began developing a low-cost ventilator design to address the dire shortage of the machines in developing countries such as India, but the initiative soon expanded to address other problems faced by doctors and healthcare professionals. These include the lack of medical equipment such as oxygenation devices, personal protective equipment, intubation boxes, and safe ways to collect samples.
  □ **HopeFlow** : HAC funded project. A low cost ventilator.
  □ **HoodOfHope** : SCTIMST funded. Limited commercial production.
  □ **ShieldOfHope** : 15000 units manufactured and are flexible compared to other brands.
  □ **SafeCollect** : To collect the samples. Limited Deployments.
  □ **Closed Space Air Filter** : to reduce aerosols.
  □ **Portable Incubation Centre** : Functional validation done
  □ **Respirator** : The breath support system.
- Techno Unnati project to Dr Bijoy Jose IEEE HAC fund of INR 24 Lakhs and inauguration of science lab at Govt H S Kuttamassery as part of Flood Relief is underway.
- 12 Projects received HAC Covid 19 special funding in 2020
  □ HAC Fund Received - $ 46,294 in total for these projects

B.10 Community Activities

- The Annual Awards evening of IEEE Kerala Section was held on 30th January 2021. Awards were given to Individuals and organisations who have given remarkable contributions to the society.
- IEEE DAY CELEBRATIONS 2020 (OCTOBER 10, 2020)
  - ☐ Chief Guest : Dr. Toshio Fukuda, 2020 IEEE President and CEO.
  - ☐ Virtually presented the 2020 MGA Large Section award to the section
  - ☐ Special Guest : IEEE MGA Board Chair Dr. Kukjin Chun
  - ☐ Dignitaries from MGA, R10, & India Council accepted our invitation and attended.
  - ☐ Panel Discussion on "Beyond the Pandemic, Volunteering with IEEE for Technological, Social & Humanitarian Causes" moderated by Mr. Satish Babu

PART C - OTHERS
C.1 Special Events
- Please briefly describe the importance of special events and the outcomes achieved
  - o EMERGE 2020 : COVID Fundraiser towards CMDRF
    6 Speakers, 818 Participants from 20 countries
    INR 1,22,700 Donated to CMDRF
  - o RAICS 2020 : IEEE Kerala Section Flagship Conference gove fully virtual
    3 days, 8 tracks, 39 papers, 4 Keynotes
- Funding secured from the IEEE and external sources including sponsorships

  - o Details of the funding are available HERE

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

- **Details of joint activities**
  IEEE Kerala Section has a long standing relation with other major professional societies in the state like, Computer Society of India, Aeronautical Society of India, Systems Society of India, Project Management Institute,Indian National Society for Aerospace and Related Mechanisms, Society of Aerospace Manufacturing Engineers, Indian Society for Training and Development, Internet Society, Society of Energy Engineers & Managers and Vakkom Moulavi Foundation. Along with some of these bodies every year, IEEE Kerala Section arranges weekly Technical/Professional talks on a variety of topics on wednesdays. Between 1st Jan 2020 and 31st Dec 2020, 52 such talks have been delivered by various speakers in face-to-face meetings and online webinars. Details of the Wednesday talk series can be found HERE.
- **Tie Ups & Relations with Governmental Agencies:**
  IEEE Kerala Section maintains good rapport and official tie ups with various governmental and quasi government bodies. KSEB (State owned Power Utility Agency) Engineers Association and IEEE Kerala Section PES Chapter, Kerala Section organized a Series of Seminars and Project Paper competitions, which is a continuing activity since last 10 years.IEEE Kerala Section is continuing its support to C-Sis (Centre for Science in Society) at Cochin University of Science & Engineering.

C3. Collaboration with other IEEE Sections
- Joint activities with any other Section
  - o GRADUATE CONGRESS: GraTE'7' Graduate Thesis Evaluation in 7minutes in association with COMSOC chapter of IEEE Bangalore Section. The competition is targeted at graduate and PhD scholars to showcase their thesis.

C.4 Support extended to Sub-sections & Society Chapters within the Section
Kerala Section has 2 Sub Sections (Kochi Sub Section and Malabar Sub Section), 12 Society Chapters and one Council chapter. All activities organized by the subsection / society chapters are supported both financially and technically by the Section. Activities of 2020 cab reached from HERE.

C.5 Best Practices of your Section (which you would like to share with other Sections for the benefits of members)
- The Section executive committee has representation and active participation of Chair, Vice Chair and Secretary of all Subsections, Affinity groups and society chapters apart from core office bearers and volunteers assigned with specific responsibilities such as Educational

activities, Professional activities etc. All former chairs of the Section are also included as member-at-large.

- Active participation of members ranging from Life senior members to student members in the section governance and activities
- Strong interaction and liaison with Government departments and local bodies of administration. This was particularly utilized to support crisis management at the Government level especially during Kerala floods in August 2018 and COVID outbreak in 2020.
- An award function is conducted annually with outstanding and phenomenal contributors from Industry, Government as well as academia are honored with special awards. Outstanding IEEE volunteers from all categories of the Section membership are also given special awards to recognize their volunteering efforts.
- Active presence in all social media channels such as Facebook, Twitter, Instagram as well us YouTube
- Mentoring of new members and young professionals by appointing senior Section volunteers as advisors
- Participation of academia, R&D, Industry in the Governance
- Formation of Student Activities Board to provide a sense of direction and guidance to the Student Activities in the Section
- One of the most vibrant student activities team in R10 with about 8000+ student members across 75+ SBs. Coordination of student activities through Local Integrated Network (LINK) and 3 HUBs that that coordinates the activities of IEEE Students in three zones of the Section
- Student Representation in Sections decision making process

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

- The major problem that the Section experiences is the retention rate of student members. The transition to GSM/Members is poorer. The Section leadership and student activities board (SAB) of the Section are actively working on it. Internships, within and outside the IEEE communities, and job fair are some of the solutions to retain student members.
-

PART D - GOALS AND PLANS

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

- Humanitarian activities & SIGHT [Special Interest Group for Humanitarian Technology] are the branchildren of IEEE Kerala Section. We continue the momentum in our interventions with Society & Technology. The Section likes to take up more initiatives like BreathofHope, E-Scientia, KeralaRescue, Sashtra Vismaya, Techno Unnati.
- The Consultant Networks AG is working on creating a consultant pool of eminent academicians and technologists to support Small & Medium Industries of Kerala.
- The strategic initiative on industry engagement is equipping our members to meet Industry 4.0 demands. The initiative involves multiple societies, Industry team, LMAG, Senior members and YP [Young Powerhouses] to deliver the fundamentals in this revolution to the young engineers of Kerala. Details

D.2 Goals and Future Plans

- **Meet 12000+ mark in Memberships :** Being one of the largest sections in the region, we would like to grow our membership base to 12000+ in two years**.**
- **Upskill the Young Engineers** : We have plans to help budding engineers of Kerala starting from the universities. As a part of this we support educators to sharpen their skills which in turn would help the skill development in students. Activities are planned to encourage students to learn the basics, understand applications and then apply those with precision & passion to be great Engineers. A multidimensional initiative including interventions in curriculum, delivery, Industry associations, student mentorship etc is being formulated.
- **Host global events of IEEE** : The section would like to host global events of IEEE, including conferences and workshops, to showcase the capacities of the section team and to expose our volunteers to global leadership opportunities.

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

- Keep the membership dues of students as slow as possible to attract more of them and also bring socially and economically backward students to the forefront of the IEEE student community. *Believe in the economy of scale*.
- Increased financial support to students in presenting papers in IEEE's flagship conferences, based on the merit of the paper, so as to motivate them in doing research.

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

- Bid for global/R10 IEEE flagship events such as conferences and workshops and organize them successfully both in terms of the quality and financials.