IEEE BANGALORE Section Report

A.1 Executive Summary – (Please follow the format given below)

- Section Executive Committee Member List

Sl. #	Name	Position	Affiliation
1	Bindhumadhava	Chair	C-DAC
2	Deepa Shenoy	Chair-Elect	UVCE
3	Chandrakanta Kumar	Vice-Chair	ISRO
4	Navin Kumar	Secretary	Amrita University
5	Prasant Misra	Treasurer	TCS
6	Divya M	Member	C-DAC
7	Abhishek Appaji	Member	B.M.S. College of Engineering
8	Raghvendra Prasad S. G	Member	R.V. College of Engineering
9	Sujatha D N	Member	B.M.S. College of Engineering
10	Narayan Subramanian	Member	Nutanix
11	V N Muralidhara	Member	IIIT- Bangalore
12	Sadhana Attavar	Member	VITM
13	Ashok Das	Member	SunMoksha Power Pvt Ltd
14	Tathagat Verma	Member	Walmart Global Tech
15	Sunil Vuppala	Member	Ericsson
16	Chengappa M R	Member	Hewlett Packard Enterprise
17	Ashwini Appaji M	Member	Holy Child Convent
18	Latha Chembrakalam	Member	Bosch
19	Ramakrishnan Raman	Member	Honeywell
20	Pushpamala	Member	Dayanand Sagar University
21	Soma Pandey	Member	Reliance Jio
22	Kishore Kumar Sharma	Member	Robert Bosch Engineering and Business Solutions
Two Immediate Past Chairs			
23	Puneet Kumar Mishra	Member	ISRO
24	Keshav Bapat	Member	Keysight Technologies

- **Section Highlights**
  Year 2021 has been very productive, fruitful, though challenging. Bangalore Section has reached the milestone of 10,000, the first time in history. The section volunteers and members are very supportive, dynamic, and committed. In 2021, while IEEE at the global level has seen a steady membership, the Bangalore section has grown by close to over 7-8%. Thanks to members of all grades who have shown faith and belief in volunteers activities carried out for the entire society and IEEE at large. The section has currently 25 Society chapters, 4 affinity groups, 2 councils,s, and 1 special interest group (SIGHT). The section is also delighted to see the chair of the India council for 2022, Prof Debabrata Das, who has been past chair of this section. Similarly, many of our past chairs Prof K V S Hari who is volunteering at the global level. Furthermore, Mr Ravikiran is president of TEMS society, Dr. Sudheendra Kousik, Vice President TEM. Many other volunteers/members of the section are volunteering at region and global level. During 2021, the section visibility has reached to a great height, be it at domestic level or international level. IEEE leaders from across the globe look for the Bangalore section and appreciate our achievements. Section continued delivering the technical content through webinar, engaging volunteers of all grades, designing programs and arranging world class speakers and professional to interact with many young and new members. Over 200 technical/professional events were conducted by the section. However within the section, over 2200 events by chapters, student branches and OUs were organized. A couple of section's conferences organized has not only attracted the largest audience so far, but also conducted in such professional way not less effective than the physical conference.

Many existing conferences like flagship conference of the section CONECCT 2021 (July), IEEE R10 Humanitarian Technology Conference Oct 2021, Bangalore Technology Conclave (Dec 2021) and many others witnessed a very large number of audience and international speakers. Additionally, some of the symposiums like Cyper Physical System, Quantum Communication and Networks (Q-Ray), Virtual Reality were also initiated. Group of international experts joined the section during various events in 2021 to share their thought on the way forward to deliver the urban amenities to the rural areas to a larger audience through webinar series. Bangalore Section steadily involved in helping members to get elevated to senior member, student to professional members and arrange, encourage eligible senior members for fellow nomination.

- **Major Events (International, National)**
  Symposium on Digital Reality (Dec 22, 2021)
  IEEE Bangalore Section in collaboration with the **IEEE Mysuru Subsection** has organized a one-day symposium on **Digital Reality** on **December 22, 2021**, scheduled between **4:15 pm - 8:00 pm (Indian Standard Time)** IEEE Bangalore Section well understands the relevance of digital transformation, which is

fueled by advances in technology, such as sensors and actuators, artificial intelligence (AI), and machine learning (ML). By leveraging these technologies and others being developed, such as augmented reality (AR), virtual reality (VR), and Digital Twins, the line between the physical world and the digital world will be increasingly less distinct. Applications are already quickly emerging in the fields of health care, education, manufacturing, sharing services, and more. This symposium aims at providing technical insight on the standards and technology, its benefits, and what it takes to implement digital reality solutions. The detailed symposium schedule is in the brochure shown here.

Symposium on Data Storage (Dec 01, 2021)
https://dss-we-2021. ieeebangalore.org/
With the need to solve imminent challenges faster in the health and life sciences, energy, weather, seismic processing, astronomy, and allied areas; the desire for fast data driven apps and computing remains to be a fundamental ASK! Scalable AI lends a helping hand, but needs higher performing infrastructure to support it. Data and storage technologies, therefore, are increasingly playing a central role in its enablement. Hence, the research and development of new architectures, cutting-edge innovative solutions and standards in the data and storage domain are becoming more demanding. In line with these changing paradigms in the storage domain, IEEE Bangalore Section in association with IEEE Computer Society Bangalore Chapter and Huawei India as Industry partners is pleased to announce the IEEE Data & Storage Symposium (IEEE DSS) 2021 - **Winter Edition** on December 1 - 2021; an event connecting technology leaders across various segments of the data management and storage world. IEEE DSS 2021 - Winter Edition had the following specific tracks on:

- Track 1 : Unlock the power of Big Data with new-age Data Storage Architecture; and storage optimized for processing big data with near data processing, function offloading and pushdown
- Track 2 : Computational architecture with function in hardware, smart NIC and DPUs for extreme low latency data access for HPC and HPDA
- Track 3 : Achieving performance and cost objectives with Data Lakehouse, global namespace
- Track 4: Efficiencies with virtualized and containerized deployment of storage, dis-aggregated, composable storage architecture.

IEEE Bangalore Technology Conclave (BTC) (Oct 29 – 30, 2021)
Website: https://btc-2021.ieeebangalore.org/
IEEE Bangalore Section, in collaboration with Women in Engineering (WiE) and Young Professionals (YP) affinity groups, is pleased to announce the 2nd edition of IEEE Bangalore Technology Conclave (BTC) 2021 based on the theme of Clean Technologies for a Sustainable World. It was scheduled and held as a virtual conference on 29th and 30th October 2021. IEEE BTC is a flagship annual event of the Industry Relations Program of the Section; where technology leaders, innovators, entrepreneurs, and thought leaders address the pressing problems, and share their vision on futuristic technologies that will/may disrupt/impact our way of working and living. IEEE BTC 2021 had the following tracks and sessions:

October 29, 2021 (FRIDAY) - SmartTech
- 08:30 AM - 11:30 AM IST: Session 1: Sustainable Transportation | Renewable Energy Storage | Renewable Energy Generation
- 12:00 PM - 15:00 PM IST: Session 2: ICT for Clean Technologies

October 29, 2021 (FRIDAY) - YP Global Summit
- 18:00 PM - 20:00 PM IST: Session 3: Fireside Chat with IEEE Bangalore TechICONS

October 30, 2021 (SATURDAY) - WiE Global Leadership Summit
- 08:30 AM - 11:30 AM IST : Session 4: Clean Production and Clean Materials
- 12:00 PM - 15:00 PM IST : Session 5: Sustainable Agriculture - From Farm to Fork and Waste Management

Symposium on Quantum Rays (Q-Rays) (Aug 28, 2021)
Website: https://quantumrays-2021. ieeebangalore.org/
Quantum Rays is an assimilation of computing, communications, security with widespread applications rapidly developing globally and lots of commercial applications emerging from theoretical constructs developing in this area. This one-day conference focused on how to network quantum processors and quantum information for quantum control. The event aims to deliver quantum-based networking solutions and discusses the challenges and opportunities with quantum researchers, scientists, engineers, entrepreneurs, developers, students, practitioners, educators, programmers, and newcomers. The session was Inaugurated by honorable speakers and Opening Remarks were mentioned by BS Bindhumadhava, CDAC & Chair IEEE Bangalore Section. A session on the topic MeitY and Quantum Computing as a service: Government's perspective was handled by B.K. Murthy, Group Coordinator MeitY, GoI, and a session on Quantum Mission at IISER was taken by Prof. T S Mahesh, Faculty in Physics, Indian Institutes of Science Education and Research. A Session on IEEE Future Directions was taken by Reena Dayal, IEEE Quantum Initiative - Steering Committee Member.
Yianni Gamvros, Head of Business Development, QCWARE discussed the Problem Classes for Quantum computing. Manojkumar Parmar, Bosch spoke about High Quantum Computing. A session on Quantum Controlled gate based on Ion-Trap/Rydberg atom was taken by Dr. Kumar Gautam, Quantum Research and Center of Excellence (QRACE) The day ended with a Roundtable on – IEEE & QET Council of India; Formulation of the Workgroups and way forward, With Reena Dayal as moderator and Anil Prabhakar, Apoorva D Patel, Manjunatha G Kukkuru, Urbasi Sinha as panelists. Overall, the event discussed quantum-based networking solutions and discusses the challenges and opportunities with quantum researchers, scientists, engineers, entrepreneurs, developers, students, practitioners, educators, programmers, and newcomers.

Data and Storage Symposium (Jun 30, 2021)
Website: https://dss-2021.ieeebangalore.org/index.html
With the fast changing scenarios, and the need to solve imminent challenges even faster in the Health and Life
Sciences, Energy, Weather Prediction, Seismic Processing and allied areas; what is remaining unchanged is the desire for fast data driven apps and computing. Scalable AI lends a helping hand but also needs higher performing infrastructure to support it. Data Storage technologies are increasingly playing a central role in its enablement. Hence the research and development of new architecture, cutting-edge innovative solutions and standards in the Data and Storage domain are ever accelerated today! In line with these changing paradigms in the storage domain, IEEE Bangalore Section in association with IEEE Computer Society Bangalore Chapter and Huawei India as Industry partners, organized IEEE Data & Storage Symposium

(IEEE DSS) 2021, on June 30, 2021, an event connecting technology leaders across various segments of the data management and storage world. This symposium aimed to bring together technology leaders, innovators, entrepreneurs & thought provokers who are passionate about addressing impactful problems by turning ideas into solutions. Industry stalwarts and technology practitioners, together will share their vision on future technologies and how they will impact our way of working and living. Due to the pandemic situation, this event was organized virtually. The targeted audiences are from Corporate, Academia, and Industry.

Symposium on Cyber-Physical System, (May 28, 2021)
Website: https://cps-2021.ieeebangalore.org/index.html
Computation, networking, and physical processes are all integrated in Cyber-Physical Systems (CPS). Computers and networks monitor and regulate physical processes in cyber-physical systems, including feedback loops where physical activities impact calculations and vice versa. This one-day conference focused on some of the most important needs, difficulties, advancements, and possibilities in Cyber-Physical System Security, such as communication, computation, and control. It gave researchers a place to look for challenges and grant opportunities. To realize the full potential of this new generation of technology and position India as a global leader in CPS. The seminar was discussed by BS Bindhumadhava, CDAC and Chair of the IEEE Bangalore Section. The session's keynote speaker was Dr. Kris Gopalakrishnan, Chairman of Axilor Ventures. Dr. Swati Rawal Dang, Scientist-C, NM-ICPS & FFT, DST, GoI and Dr. B.K. Murthy, Group Coordinator MeitY, GoI The government's perspective on CPS was discussed. Dr. Pavankumar Tallapragada, Assistant Professor at IISc, spoke about event-triggering for control under resource constraints. Shri. Venkataramana Anant Bhagavati, Advisor – Medical Devices & IVD International Centre for Automotive Technology, Government of India, presented a seminar on IEC/ISO standards for electro-medical device testing. The CPS security concerns in the Indian power industry were exposed by Shri KVS Baba, Chairman and Chief Executive Officer of Power System Operation Corporation Limited (POSOCO). Professor Rahul Mangharam of the University of Pennsylvania (USA) spoke on CAD4CPS: Computer-Aided Design for Life-Critical Cyber-Physical Systems in the Health and Energy Sectors. At the conclusion of the program, a panel discussion on Cyber-Physical Systems – Safety and Cyber Assurance Challenges was held. Overall, the event aided young brains in discovering new opportunities in the field of Cyber-Physical Systems (CPS). It gave youthful brains a fresh way of thinking about impending developments and their thoughts on how to infuse humanity lines into current technology.

IEEE Signal Processing Society Forum on Image and Video Signal Processing (27 Mar 2021)
Website: https://sps-2021.ieeebangalore.org/index.html
IEEE SPS was jointly organized by section and signal processing society. IEEE Signal Processing Society Forum on Image and Video Signal Processing is scheduled on 27 March 2021. The highlights of the IEEE SPS forum are as follows:
- It is aimed at networking in the area of Image and Video Signal Processing to industry members.
- Bridge the gap between Industry and Educational Institution.
- Provide a platform of presentations, lectures, and demos by industry experts.

In addition to several invited talks, there was a workshop on Workshop on Augumented reality with MATLABImages, Video and 3D Details of Workshop.

- **Major Chapter Activities**
There are a total of 27 chapters in the setion, 3 affinity groups and two councils. Vibrancy in the section has percolated to its constituent chapters too. The section made a conscious effort to bring the chapters closer. Multiple initiatives like multiple coordination meeting, encouraging them to host their tracks in the the flagship conference CONECCT of the section, supporting with platforms for hosting Webinar, Workshops, Seminar, ExeCom, AGM, etc., sorting out administrative issues in a few chapters, and additional financial support from to section based on the events conducted, etc. are provided. This has significantly increased the reporting of the events to vTool which stands at more than 500 for the year 2021. This increased traction has led to record numbers of reports submitted to the section by the chapters.. Some of the initiatives are elaborated below –

Section ensures that chapter remains involved and therefore, chapter chair meeting is conducted periodically. In addition, chapter chair is always invited in section ExCom montly meeting. On 28 April, officer training session was organized. It was training on vTools. The following agenda was discussed during the session.
- Planning a meeting

- Filing a meeting report
- Chapter Officer reporting
- Communicating with members of your chapter
- Financial Reporting (Netsuite etc)
- Virtual Meeting Platforms
- Compliance Reporting
- Additional Resources
- Questions and Answers

As in the last year where all chapters were invited to own a track in the main conference, this year too, the same is followed with 2021 edition of CONECCT. 22 chapters joined hand and took ownership of the track. With this, it is found that the engagement and interest among volunteers increased. Most of them had a workshop/Tutorial, Keynote, and contributory papers in their tracks. This made the conference also a very successful one.

Based on the activities carried out by different chapters the section provided financial support to them. In the year 2021 about INR1.75L support for different chapters has also been disbursed. Additionally based on the technical activities, one each from small, medium, and large chapters has been awarded as best performing in their respective categories.

- **Major Student and Affinity Group Activities**
  Students are one of the biggest strengths of any section. However, looking at the opportunity and student community, we still lack in a number of student members. We have around 50% of the total strength as student and graduate students. We might need to work a little more to reach out to them. Though the section has many exclusive programs, and every year a dedicated and experienced team join hands and work with SB and students directly. However, this year many SBs have a significant increment in student count. Some of the major events for students related are:
    - **Branch Counselor Meeting** – This is periodically conducted and ensured the BC are motivated and encouraged.
    - **Student Project on Humanity** – This has become a regular event where project call is sent 2-3 times and based on concept, the project is awarded and then the final selection is demonstrated by the students team.

- **Awards and Recognition**
  Consistently over the past several years Bangalore Section work like a closely-knit family. This brings vibrancy to the section with a continuously increasing reach among different parts of Karnataka. The section takes a leadership role in many technical and social activities among the different sections of IEEE spread across the globe. This gets recognized by different forums of IEEE like India Council, R10, and IEEE Global. As in previous years this year too, the sections won many recognitions. Many of its volunteers have been recognized with individual awards for leadership positions. Some of these accomplishments are mentioned below:

  IEEE Fellow Elevation
  Fellow grade is perhaps the most rewarding elevation for IEEE members. Section has over 20 Fellow grade. Following 3 IEEE Fellows Elevation are confirmed this year.
    - Dr Kumar Sivarajan, Tejas Network
    - Gopal Pingali, Ex-IBM
    - Suparna Bhattacharya, HPE

  R10 Large Section Financial aid
  Section received 3000 USD as large section award

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

- Summary (as per submitted on NetSuite)
  Independent auditors' report to the members of The Institute of Electrical and Electronics Engineers-Bangalore Section. Report on the financial statements. We have audited the accompanying financial

statements of The Institute of Electrical and Electronics EngineersBangalore Section, which comprise the Balance Sheet as of 31st December 2021, and the Income and Expenditure account for the year then ended, and a summary of significant accounting policies and other explanatory information

The Institute of Electrical and Electronics Engineers
(IEEE- Bangalore Section)

Balance Sheet as at

Particulars	Schedule	31-Dec-21 Amount (Rs.)	31-Dec-20 Amount (Rs.)
I. SOURCES OF FUNDS			
1)Funds and Reserves			
Corpus		20,000	20,000
Committed Funds		-	-
Uncommitted Funds			
General Reserve	2	2,00,24,991	1,48,26,203
Total		2,00,44,991	1,48,46,203
II.APPLICATION OF FUNDS			
Current Assets, Loans and Advances			
(a) Fixed Deposits		1,69,55,538	1,25,11,423
(b) Cash and Banks Balances		42,87,594	25,39,224
(c) Advances and other receivables	4	11,64,337	18,86,555
Less: Current Liabilities and provisions	3	(23,62,478)	(20,90,999)
Net Current Assets			
Total		2,00,44,991	1,48,46,203
Summary of significant accounting policies	1		

The accompanying schedules are an integral part of the financial statements

In terms of our report attached
For Vasanth & Co.,
Chartered Accountants
(Firm Reg No: 008204S)

For and on behalf of board of directors
IEEE Bangalore Section

N. Amarnath
Partner
M.No.510064

B S Bindhumadhava

Chairman

PRASANT
KUMAR
MISRA

Prasant Kumar Misra

Treasurer

Navin Kumar

Secretary

Place: Bangalore
Date:08/01/2022

- Any other financial activities

Sponsorship, the registration fee for events are recognized on the basis of receipts and as per the bank advice available. The funds received from GIEEE are accounted as and when received.The funds received from HQ and GIEEE on behalf of other chapters are transferred as per the instructions received.These are reimbursements of expenses. The registration fees, sponsorship, awards, and support funds received with specific instruction and understanding that are to be paid to other Chapters/Societies and earmarked Events/Conferences/Projects are recognized when received by the section and when the disbursements are made, it is booked as an expense.no worries

The Society has kept all the unutilized amounts in the form of bank balances and term deposits with scheduled banks, which are in conformity with section 11(5) of the Income Tax Act,1961

Fixed Deposits are disclosed excluding accrued interest net of Tax Deducted at Source.
The expenditure for conference/events is recognized in the year in which such conference/event is held
Previous years' figures have been regrouped, wherever necessary.

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

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

Membership count 10,198 as on Nov 2021
Membership count 9,521 as on Dec 2020
Membership count 8,822 as on Dec 2019

IEEE Bangalore Section Membership Development Committee (MDC) has focused on supporting and meeting the members' needs and IEEE membership recruitment and retention strategies. In 2021, MDC team worked on multiple strategies by maintaining, enhancing, and supporting IEEE members across the Student Branches, Technical Chapters, and Affinity Groups of the IEEE Bangalore Section. In addition, MDC team actively promoted IEEE membership benefits across academic institutions and industries. The team adopted a multipronged reach-out approach through;
- Know your IEEE webinar series across various organizations such as Wipro, AIT, Reliance Jio Infotech and NetApp;
- Arrear Members Connect to re-stress on various IEEE membership benefits and encouraging renewals;
- Senior Grade membership elevation program drive (SIMPLE) towards elevating eligible members to Senior grade;
- IEEE Industry Wing Evangelist reach to promote IEEE in their respective organizations;
- Strengthening Student Branches by establishing Student Branch Membership Development Committees, and organizing ―IEEE Hour‖ in many colleges;
- Mentoring & coaching graduating students to enable them to face job interviews confidently through multiple mock-interview sessions;
- Student to Student Webinars with fireside chats to enable students learn on various benefits of student membership,
- e-Sahayavani helpdesks to support membership queries.

The tangible outcome of these various initiatives was well visible in the significant increase in membership from 6797 in March'21 to 9620 in Dec'21.

The efforts of MDC team were recognized by the section earning the Silver Award for membership retention. Bangalore Section has met the retention goal for the year and have earned a ―Silver Award!‖ There are 342 Sections in the geographic Regions worldwide

B.2 Chapter Activities

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

B.3 Professional and Continuing Education Activities

IEEE Bangalore Section's Professional Activities team developed and executed programs for the professional enhancement of students and working professionals.

A session on AgriTech was scheduled on 17-July-2021; the Talk Title/Speaker details are as follows:
- **Digital Transformation using Human Computer Interaction and Open Innovation for Agriculture Research** by Dr. V. Ilangao, Professor and Head – Centre of Excellence for Intelligent Human Computer Interaction, CMR Institute of Technology
- **Agriculture 4.0 and 5.0** by Dr. Prasad Kulkarni, Associate Professor, KLS Gogte Institute of Technology, Belagavi
- **Future of Agriculture Automation** by Prof. Prajwal K. T., Assistant Professor, Department of Electrical Engineering, Ramaiah University of Applied Sciences

IEEE Bangalore Section's Professional Activities Committee organized **TechICON** series to ignite the educational, technical, and professional aspirations of student members and young professionals by learning about the career journeys of successful technologists. The following three TechICONS were featured in this inaugural series.
- Prof. Dharmendra Kumar Vice President, Reliance Jio Bangalore
  Link: https://ieeebangalore.org/dharmendra-kumar/
- Vidya Hungud Executive Director, AI/ML Acceleration Platform Engineering, JPMorgan
  Link: https://ieeebangalore.org/vidya-hungud/
- Dr. Aloknath De Corporate Vice President, Samsung Electronics & CTO, Samsung R&D Institute India
  Link: https://ieeebangalore.org/dr-aloknath-de/

The IEEE Bangalore section's Educational Activities Committee organized amazing events throughout the year with for Continuing Education Activities different dimension for benefiting the members and also to attract the nonmembers for taking up the membership.
- On Occasion of National Science Day, Quiz-A-Thon Quiz was conducted and 280 students participated and winners were given prizes
- The World of problem-solving webinar on personality development workshop was conducted and 120 participants participated.
- Science in action workshop was conducted for pe university students where students from grade 6-12 participated. Event was conducted on How to make a Technical Presentation was discussed and also how to make effective technical presentation tips was discussed with participants.
- Technology students who were about to graduate were given training on how to face interview and also the awareness on facing interview was conducted.
- An event called fun with scripts was conducted which also had fun filled interaction.
- Workshop on Ardino was conducted for 35 students who enjoyed and also made sure to create their own boards and sensors.
- Career opportunities for engineers through govt exams workshop was conducted for students to create awareness on government opportunities.
- App development course was conducted which had a huge response from the students.
- Make It was a webinar conducted which helped graduates to prepare for their placements.
- Teachers day was celebrated at a private School which had lot of fun filled activities and the event was successful with 150+ participants.
- IEEEXtreme competitive programming was conducted as a mock activity to et exposure and experience of this programme.
- 21st century learning skills were encouraged to students on webinar mode. IEEE Day was celebrated physically atMVJ college of Engineering. CADD 360 fusion and over view was conducted.
- Hands on workshop was conducted on signal processing by distributing the kits to students.
- Workshop on UPSC civil services exam was conducted.

B.4 Students Activities

- Total number of Student Branches in the Section
- Number of Student Branches formed in the current year
- Section level student activities (student congress, paper and other contests, awards etc)
- Number of active Student Branches (Student Branches who have reported required number of meetings during the year)
- Summary of Student Branch activities (Student Branch wise with attachment table/information)

B.5 Affinity Group Activities

- **Young Professional (YP)**

  IEEE Young Professionals Affinity Group Bangalore comprises IEEE members from academia and industry with domain expertise in a myriad number of technical and non-technical fields. We are a diverse group of members, spanning right from early-career young professionals and final year students to senior members of the IEEE. The Affinity Group's main objective is to add value to its member base by organizing events, webinars, YP tracks at conferences and many more inclusive events.

  Just like every year, 2021 started off with the transfer of Executive Committee roles to the new committee during the Annual General Meeting of the YP Affinity Group held during January 2021. The new committee embarked on a journey to organize technical and professional events for the benefit of all its members with a prime focus on greater collaboration with sister affinity groups, technical societies of IEEE as well as student branches of IEEE Bangalore Section and beyond.

  Due to the diverse member base, webinars, technical sessions across different technical domains were organized. Members of the Executive Committee of IEEE YP AG Bangalore facilitated these sessions by delivering these webinars and workshops at various student branches across India. Professional development and Benefits of the IEEE YP Membership session was organized in collaboration with IEEE RVCE Student Branch to promote effective student to YP transition. Webinars, week-long workshops in collaboration with IEEE technical society YP sessions were organized to foster greater collaboration and bring in more value to YP members at large - International Workshop on MIMO and Beamforming Antenna in collaboration with IEEE APS Chapter Jaipur, IEEE AP-S Young Professionals Opportunities, and Benefits Session with IEEE APS Society. YP Bangalore Affinity Group is actively involved in hosting the Special Young Professionals Track at various conferences organized by IEEE Bangalore Section. In 2021, YP Track was hosted at the flagship conference of IEEE Bangalore Section, IEEE CONECCT in July. A similar YP track was hosted as a part of the IEEE Region 10 Humanitarian Technology Conference, which was organized in October 2021. The Young Professionals team celebrated IEEE Day this year with utmost enthusiasm in collaboration with NITK IEEE Student Branch through the event "Athenaeum". Additionally, the Young Professionals group at IEEE Bangalore Section have initiated the second edition of Mentor4You, a mentoring program aimed at connecting students with young professionals working in the industry and academia in order to support student mentees in their journey of developing skills, encouraging project-based learning, etc as well as an opportunity for the mentors to hone their leadership and mentoring skills.

  In addition to this, IEEE Young Professionals Affinity Group Bangalore in association with the IEEE Bangalore Section hosted "Young Professionals Global Summit 2021" at IEEE Bangalore Technology Conclave (BTC), 2021, featuring young achievers in domains of technology and entrepreneurship. Following the overarching theme of 'Clean Technologies for a Sustainable World', the technical talks catered to topics like 5G, V2X, IoT, computing, semiconductors, machine learning, artificial intelligence, space, and satellite technologies. With such dynamic events, IEEE Young Professionals Bangalore Section successfully wrapped up the year and aims at bringing in more such events next year.

- **Women In Engineering (WIE)**
  Women in Engineering IEEE Bangalore section (WIE) is one of the largest international professional organizations dedicated to promoting women engineers and scientists, and inspiring girls around the world to follow their academic interests in a career in engineering. The IEEE Women in Engineering initiative has been established to promote the achievements of women professionals in fields of interest to IEEE. The WiE

Bangalore Section also organized many webinars as part of member wellness, wellbeing and also to mark and celebrate Yoga Day.

- **Life Member (LM)**
  The formation of the LMAG of the Bangalore Section was approved by IEEE during 2019. There are around 22 LMAG members and most of them are very active. They often suggest section ExCom on some of the Do's and Don't's. They also engage their colleagues arranging seminars. Section invite them on most of the events.

B.6 Awards & Recognition Activities

- Award constituted by the Section
  In order to recognize the efforts of volunteers, Student Branches, Society Chapters, and Affinity Groups the Section has announced the following awards for contributions during the year 2021. As per practice followed, the announcement of the result of the awardee would be during the AGM. The awards constituted by IEEE Bangalore Section as follows:

  1. IEEE Bangalore- Medal of Honor 2020 (Through Nomination Only)
  2. IEEE Bangalore-Outstanding Large Chapter/Affinity group 2021
  3. IEEE Bangalore-Outstanding Medium Chapter/Affinity group 2021
  4. IEEE Bangalore-Outstanding Small Chapter/Affinity group 2021
  5. IEEE Bangalore-Outstanding Large Student Branch 2021
  6. IEEE Bangalore-Outstanding Medium Student Branch 2021
  7. IEEE Bangalore-Outstanding Small Student Branch 2021
  8. IEEE Bangalore-Most Promising Student Branch 2021
  9. IEEE Bangalore-Outstanding Large Student Branch Counselor 2021
  10. IEEE Bangalore-Outstanding Medium Student Branch Counselor 2021
  11. IEEE Bangalore-Outstanding Small Student Branch Counselor 2021
  12. IEEE Bangalore-Outstanding Student Branch Website 2021
  13. IEEE Bangalore-Outstanding Student Volunteer 2021
  14. IEEE Bangalore-Outstanding WIE Volunteer 2021
  15. IEEE Bangalore-Outstanding YP Volunteer 2021
  16. IEEE Bangalore-Outstanding Volunteer 2021

  The following were the committee members for the award for the year 2021.
  1. Shri Keshav Bapat, Chair
  2. Dr. Deepa Shenoy, Member
  3. Prof. Pusharaj Shetty, Member
  4. Dr. Bindu Thomas, Member.

  There was a call for the nomination and process of selection. Members have set different criteria for the award under different categories.
  1. Call for nominations Oct 2021
  2. Selection Process Nov - Dec 10
  3. Announcement Dec 15 2021

- Please list all Awards and Recognitions received by the Section, and members in the Section, from R 10 and IEEE HQ during the year

  The following are the awardees for the year 2021 foe excellent volunteering -
  IEEE Bangalore- Medal of Honor 2021
  Prof. Lalit Mohan Patnaik, National Institute of Advanced Studies, IISc, Bangalore

  IEEE Bangalore-Outstanding Large Chapter/Affinity group 2021
  IEEE Bangalore Section Computer Society, CH10446 and WiE, Ramaiah Institute of Technology

IEEE Bangalore-Outstanding Medium Chapter/Affinity group 2021
IEEE Bangalore Section VTS Chapter, CH10915

IEEE Bangalore-Outstanding Large Student Branch 2021
University Visvesvaraya College of Engineering, Bangalore STB34411

IEEE Bangalore-Outstanding Medium Student Branch 2021
STB63931 - Amrita School of Engineering Bangalore
Manipal Institute of Technology, Manipal STB09891

IEEE Bangalore-Outstanding Small Student Branch 2021
Ballari Institute of Technology & Management, Ballari (STB10169)
Central University of Karnataka , Bangalore STB14017

IEEE Bangalore-Most Promising Student Branch 2021
New Horizon College of Engineering, Bangalore STB66131

IEEE Bangalore-Outstanding Large Student Branch Counselor 2021
Dr. Rajeshwari Hegde B.M.S. College of Engineering, Bangalore

IEEE Bangalore-Outstanding Medium Student Branch Counselor 2021
Dr Annapurna P Patil M S Ramaiah Institute of Technology, Bangalore

IEEE Bangalore-Outstanding Small Student Branch Counselor 2021
Dr. Vasudeva Acharya Shri Madhwa Vadiraja Institute of Technology and Management, Bantakal, Udupi

IEEE Bangalore-Outstanding Student Branch Website 2021
National Institute of Technology Karnataka Surathkal.
REVA University

IEEE Bangalore-Outstanding Student Volunteer 2021
Varsha N J, Vidya Vikas Institute of Engineering and Technology, Mysore
Risha Dassi, Rashtreeya Vidyalaya College of Engineering, Bangalore
Rashi Anubhi Srivastava, CUK

IEEE Bangalore-Outstanding WIE Volunteer 2021
Vijayalakshmi Kotabagi, BMS College of Engineering,Bangalore

IEEE Bangalore-Outstanding YP Volunteer 2021
Samarth Bonthala, Qualcomm India Private Limited,
Ketan K KreditBee, Bangalore
Debdeep Sarkar, Indian Institute of Science, Bangalore

IEEE Bangalore-Outstanding Volunteer 2021
Dr. D N Sujatha, B. M. S. College of Engineering, Bangalore
Chengappa M R, Hewlett Packard Enterprise, Bangalore

Apart from very strong professional contribution, the IEEE Bangalore Section members also contribute in a very significant way towards the high-quality technical publications of IEEE. In order to encourage the budding researcher and to recognize their effort in the early days, IEEE Bangalore Section proposes to honor the first time authors of the IEEE Journal (conventional, non-predatory) with a certificate/citation.

It is a matter of immense pride and honor to all of the Bangalore section members to know the rising volunteerism of our members at the global level. Many of our section members who have been volunteering the section are now volunteering at R10 and global level. Some of the recognition of the section member are as follows:

Ravikiran A
CEO & MD, Numocity
President, TEMS (1 Jan 2022)
Ravikiran has steered not only our chapter through its early years but was also the Chair of Bangalore Section from 2014 to 2016 and the VP of Membership, Marketing and Communications at TEMS Global since 2019. He has held many other key positions in IEEE over the years. He is an entrepreneur many times over and is currently the CEO and Founder of Numocity. He has had a strong influence on how TEMS has evolved in the last few years. His vision and drive will take TEMS to the next level in his new role. Ravi's journey to becoming the President of TEMS will inspire many members from the section.

Puneet Kumar Mishra
Head, Satellite Ant Characterization, Test and Desgin, ISRO
Global Level:
- IEEE Industry Committee,
- IEEE APS Membership Committee,
- IEEE AESS Panel on GlueTech for Satellite System
- Vice-Chair (Professional Activities), IEEE India Council

Professor K V S Hari, IISc
IEEE Signal Processing Society, Vice President – Membership (1 Jan 2020 – 31 Dec 2022)

Dr. Sudeendra Kaushik
Innovation Director, Volvo Group India & Head of CampX by Volvo Group, India
- Vice President Conferences IEEE TEMS Innovation
- Entrepreneurship Coordinator of IEEE Region 10 Industry Relations Committee 2021-2022

Prof Debabrata Das Director, IIIT Bangalore
- Chair-Elect, IEEE India Council 2022

Prof. B. S. Daya Sagar
Indian Statistical Institute-Bangalore
IEEE GRSS DL: It is worth mentioning that he is the first-ever Indian Geoscience and Remote Sensing scientist to get this honor. More details about this can be seen at:
http://www.grss-ieee.org/education/distinguished-lecturers.

Dr Dilip Krishnaswamy
Ex.Vice President, Jio
Industry Advisory Mentorship Committee Connecting the Unconnected
Mentor (InterGram - CTU for rural India/Odisha) at the IEEE CTU event (ctu.ieee.org)
(Advisory - IEEE Connecting the Unconnected)

Dr. Uttam Kumar
IIIT Bangalore
Indian National Geospatial Award 2021.

Ms. Likitha Madhav M.R
Student Member BMSIT&M
Richard E. Merwin Scholarship IEEE Computer Society

Mr. Gaurav Sethia
Student Member BMSIT Student Representative of IEEE Robotics and Automation Society (RAS)
Industrial Activities Board (IAB) global team
https://www.ieee-ras.org/about-ras/governance/industrial-activities-board

Ketan Keshav
Web Analyst and IT Chair
IEEE Bangalore Section Region 10 Lead for IEEEXtreme.
Winner of IEEE Revol'21 by IEEE Young Professionals Region 10.

Mentor of Team Regulus that won CLAPathon a competition under CLAP'21.
Winner at the IEEE YP (Global) Video prize competition.

Manikant Amaresh Savadatti
IEEE PESCE Mandya Winner of YEEP (young engineer entrepreneurs program) conducted by IEEE TEMS

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

- Newsletter (name and number of issues in the year)
  The IEEE Bangalore Section Newsletter is a quarterly that was started in January 2020. IEEE Bangalore Section encourages its members to submit content in the following formats: personal experiences in STEM, articles, announcements of upcoming events along with news items. The purpose of the newsletter is to communicate with its members announcements – Short, topical, news oriented including the Bangalore Section Conferences along with Affinity group and society reports and other relevant information that would benefit its members. The newsletter also publishes important awards and recognitions received by its members, chapters, and societies. Creativity and technical curiosity are encouraged through the publication of Major Articles which include an in-depth discussion of current topics. All articles are reviewed and edited for appropriateness and relevance before being published.

- Home Page of the Section (give the URL and how often it is updated)
  https://ieeebangalore.org/
  The IEEE Bangalore Section is updated on monthly basis.

- Other means of contact with Section members include social media
  Information on all the events mentioned above may be found in the following Social media handles of the IEEE Bangalore Section:
  YouTube - https://www.youtube.com/channel/UCP5O7GrQaAgAPjvNIRhuiyQ
  Facebook - https://www.facebook.com/IEEEBangaloreSection/
  Instagram - https://instagram.com/ieeebangalore?igshid=1w0pfl5351wag
  LinkedIn - https://www.linkedin.com/company/ieee-bangalore-section
  Twitter - https://twitter.com/ieee_section?s=09

B.8 Industry Relations

- Membership growth and retention
  There has been a steady rise in the professional members this year and industry contribution is equal at par with academia. Many industries were contacted and provided with the advantages of being professional members of IEEE. On such approach, many came forward with a scheme to sponsor many of their employees to become professional members. We will continue this attempt and concept to approach the industry.

- Activities for/with industrial members
  The year has been very fruitful. We could establish not only good repo but also a healthy relationship with many of them. For example, we collaborated with Huawei to conduct a joint 2-day event on the Data Storage workhop. They were excited to see our approach and dedication of volunteers. They would like to host this even on annual basis or even with more frequency. Even at the society level, many societies have a very good and long relationship with industry.

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B.9 Humanitarian Technology Activities

- Humanitarian Technology-related activities supported by the Section include collaboration with other OUs.

  The section had hosted R10 2021 HTC Conference which was well received. Many student projects were

selected and presented during the conference related to humanitarian technology. Apart from this, the section also financially supported many student projects. Details of R10HTC are as follows:

9th IEEE R10 Humanitarian Technology Conference (R10 HTC) (Sep 30 – Oct 02, 2021)
Organized by Region 10
Co-organized & Hosted by IEEE Bangalore Section, at Bangalore
September 30 to October 2, 2021 IEEE Region 10 Humanitarian Technology Conference - R10 HTC, is a premier annual cross-disciplinary conference. The 9th edition was organized by Bangalore section during September 30 to October 2, 2021. The conference was organized at Chancery Pavilion Hotel, Bengaluru in a hybrid mode. The theme of this conference was ―Reverse Innovation for Humanitarian Technology Solutions using STEM‖. The conference had four special tracks for demonstrations of products, projects ideas on technologies used to achieve the Sustainable Development Goals (SDGs), humanitarian technologies, disaster relief, and management. This international conference had participation from across the globe - and countries of the Asia Pacific region in particular. The conference witnessed many keynote/invited experts. Few of them were: Shri. Sampathkumar Veeraraghavan, Chair, IEEE HAC, addressed through online mode from the USA. He highlighted the importance of utilizing technology for the benefit of humanity. Dr. V.R. Lalithambika, Guest of Honour, Distinguished Scientist, Director, Directorate of Human Space Programme (DHSP), ISRO, Bengaluru addressed how ISRO is helping humanitarian activities through space technology. Shri. Deepak Mathur, Guest of Honour, Director, IEEE Region 10 detailed the thought process of using technology for humanitarian activities. Dr. Debabrata Das, Director, IIIT Bangalore, Chief Guest, in his speech mentioned that how engineering and the medical field have collaborated to evolve to support humanity.
The conference had Call for Paper and paper presentation tracks. Each track was designed with keynote addresses, invited talks, panel discussions, and paper presentations. The conference has received a lot of consideration and support from the Government of India MEITY and DST. Other key partners working in SDGs are NASSCOM COE IOT & AI, Aarogya Seva, IUCEE and YESIST. IEEE partners namely, India Council, HAC, SIGHT, SSIT, WIE, SPS, and Smart Village also joined hands in organizing this unique event.
Special Sessions at R10 HTC:
IEEE SSIT & IEEE SMART VILLAGE Sponsored Session
Title: **Impact of technology on society and individuals**
- Dr. Luis Kun, Ph.D., FIEEE, SSIT, Distinguished, Lecturer
- Dr. Robin Podmore, Ph.D., FIEEE, IEEE, Smart Village
- Dr. Kalyan K. Sen, Ph.D., PE, MBA, FIEEE, PES, Distinguished Lecturer

IEEE India Council Track
Title: Talk on MOVE India + Video Contest on Disaster Management
- T. V. Mohandas Pai, Chairman, 3one4 Capital, Co-Founder & Chairman, Aarin Capital, Chairman, Manipal Global Education
- Mary Ellen Randall, IEEE MOVE + IEEE Fellow, President, Ascot Technologies, Inc., USA
- Dr. K. R. Suresh Nair, Founder, and CEO of Design Alpha India Council Chair
- Sadhana A, Director, Visvesvaraya Industrial and Technological Museum, Bengaluru

Special Program by IEEE Region 10
Title: Running Successful Section/ Chapter in R10
Dr. Amit Kumar, Chair - 2021-2022 IEEE Region 10 Section Chapter Committee
Takako Hashimoto, Chair IEEE Japan Council
Mandar Khurjhekar, Section Chapter Coordinator – IEEE Pune Section
Dr. Zuhaina Zakaria, IEEE Malaysia Section
Dr. Abhishek Appaji, Section Chapter Coordinator, IEEE Bangalore section

Registration Split
Total number of IEEE Members - 165
Total number of non-IEEE Members - 142
Total number of IEEE Student Members - 143

Conference Paper Statistics
Total number of Paper Submission - 272

Total number of Accepted Papers: 103
Acceptance rate: 37.8%
Final Presented Papers - 89
Oral Presented - 89
Total number of Registered Participants – 430

Conference also had call for Project Demonstration/Presentation This initiative is to bring to the limelight humanitarian projects that have been executed at low cost, with the locally available resources and used by the common public like farmers, homemakers, etc. This contest is open to all Students from R10 Region. More details can be found in the link https://attend.ieee.org/ r10htc-2021/

B.10 Community Activities

- IEEE Social activities (Family day, IEEE day, Engineers Week)"
  IEEE Bangalore Section along with the Student Coordination Team celebrated IEEE Day
  this year with utmost enthusiasm and conducted a number of events on account of IEEE Day Celebrations from 20 September to 15 October 2021. The team organised technical as well as non-technical events for the benefit of all its members along with a prime focus on membership development.

The celebration started with a quiz as the first event "QuIEEEz". The event QuIEEEz was conducted with the motto of celebrating IEEE awareness and information to all the IEEE Members of the Bangalore section. Accordingly, got positive responses from the members and they all actively participated and attempted the Quiz in the given required time. The Quiz consisted of 40 questions representing IEEE related topics and relevant information. The participants had to attempt it within 15 minutes of time. Each participant had to attempt itindividually and submit the same. This event was followed by a competition based on the mock parliamentary session

"House of cards" aimed at finding the best debater through a political simulation-based in an imaginary country. The event was of 2 rounds. In the first round, participants were required to submit an abstract for the given problem statement through a google form. White topping in Bangalore was selected as the topic for the first round. The top 5 teams were selected for the next round. The second round was of 2 parts. In the first half of it, all 5 teams were given 10 minutes to prepare their case and present it. The given topic was "Should the government prioritise technical streams students over non-technical ones". For the 2nd half of it, the top 2 teams were selected. Both teams were required to debate on the given topic " Are the competitive exams the way to go about and are they really healthy?"

The next event conducted in lieu of IEEE Day was "Dr. DIY - Creating best out of waste". We conducted a fun, innovative and creative event, namely, Dr. DIY. The event was mainly based on the issues we face during our everyday life and how we can solve them with the things around us. A google form was sent to all the SBs and a time interval of 14 days was given to all the participants. The participants had to upload on YouTube and paste the link in the form that was sent to them. The participants spent their valuable time and came up with some innovative ideas.

"Bot the Builder - Discord Bot Development Competition" was the next event which was conducted. In this hackathon, participants were required to develop a bot for the discord server which can allow us to play snakes and ladder games on the server itself. It could be a visual game, text-based or even command one. The Hackathon deadline was 9th Oct 7 AM. The presentation round was scheduled for 9 AM on the same

day. Participants presented the working of their bot, functionality and creativity they implied on the bot. Based on all these features, Judges evaluated the participants and declared the winners.

We also conducted a design-a-thon "U, I & X". It was one of a kind design-a-thon conducted by the student coordination team. The problem statement for this competition was to design a website for the SCT team. Requirements of the website were shared with participants as well. Some rules were also there to make competition challenging like the number of pages on the website, number of links and all. Although, there was no constraint regarding the tool they use. The top 8 participants were qualified for the next presentation round, where they presented their work to judges.

We finally wrapped up the IEEE day events with a very interesting quiz based on Fandoms. The "One With The Fandoms", is a quiz competition that puts the participants' knowledge as a fan to the test. The event started with the Prelims. Students could participate in teams of 2 or individually. The participants were supposed to send their answers by filling up the Google forms. Four teams were shortlisted for the finals. The finals consisted of multiple rounds of quizzes, each with different rules and formats. The participants had to answer the given questions through the WhatsApp group or the Cisco Webex platform based on the different
rounds of the quiz. The quiz consisted of questions related to the Fandoms. The energetic participants showed great enthusiasm throughout the event and made the event a successful one.

With all these events, we successfully concluded the events for IEEE Day Celebrations. Our main motive behind these events was to give a boost to our membership development wherein we saw a huge impact and it brought out a significant increase to our membership count. To encourage larger participation from each of the SBs we conducted a competition "War of SBs" in which the top 3 SBs were given recognition from which we got maximum participation for all the IEEE day events conducted by the Bangalore Section.
In order to encourage all the SBs to celebrate IEEE day with utmost enthusiasm and conduct quality events, we called for IEEE Day Campus Ambassadors from each Student Branch. The top-performing ambassadors were given recognition. With this initiative, we had nearly 100+ IEEE Day celebration events conducted under Bangalore Section through various SBs. Furthermore, this created a huge impact on pooling in new members. We even promoted IEEE Xtreme through the IEEE Day Ambassadors which helped us in
reaching the 1200+ mark for IEEEXtreme registrations from Bangalore Section. With a number of dynamic events and new initiatives, we successfully concluded the IEEE day celebration for this year which helped us in providing benefits to our existing members, creating a significant impact on non-members and remarkably boosting our membership count.

PART C - OTHERS

C.1 Special Events

Many symposiums initiated afresh this year. It is expected that they might continue. It is good to continue because they are emerging areas and government has taken many initiatives. We might align to govt. and collaborate where ever possible. In view of this, symposium such as Cyber Physical Systems, Virtual Reality, Quantum Technology started.

Funding – Close to around 10 L INR is received as funding from industry. Some of them funded for the whole year while few for some specific flagship events of IEEE Bangalore Section.

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

IEEE Bangalore Section works with few NGOs and state and government organization. However, limited to some activities and on personal reach out. There is no MoU signed as such. However, for IEEE MOVE, section participation is vital and agreement has been singed and accepted.

C3. Collaboration with other IEEE Sections

- Section is always supportive of sub-section, chapters and OUs. Many joint event also conducted and many volunteers, office bearers of section visited subsections and delivered talk, lecture, explained about best practices in volunteering, etc.

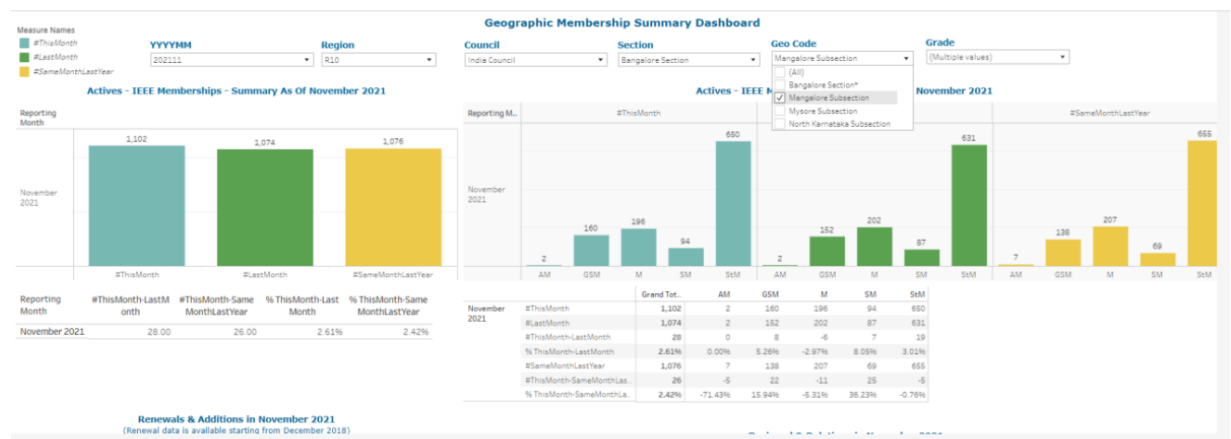## C.4 Support extended to Sub-sections & Society Chapters within the Section

Section is always supportive of sub-section, chapters and OUs. Many joint event also conducted and many volunteers, office bearers of section visited subsections and delivered talk, lecture, explained about best practices in volunteering, etc. Here's is sneak peek into the events of subsection in 2021-
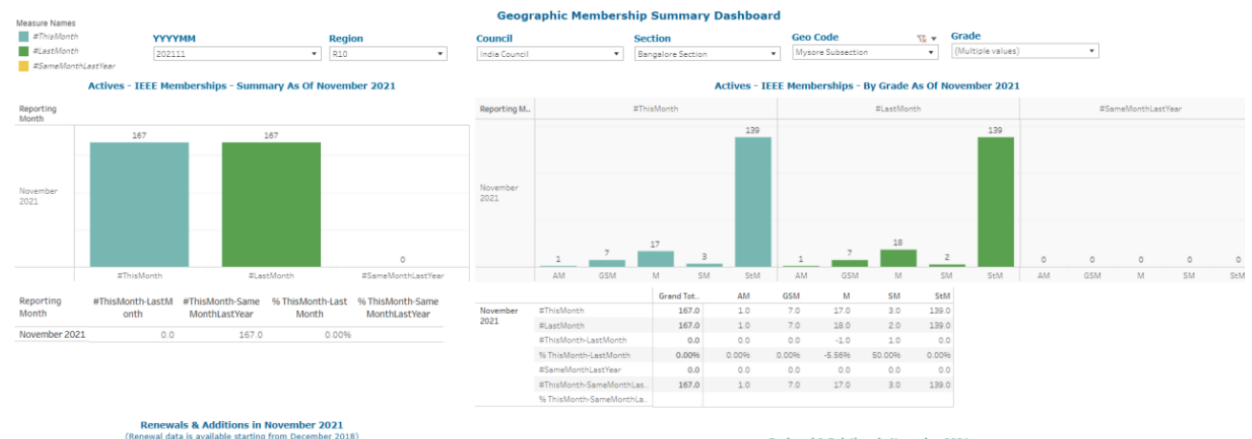
IEEE Mangalore Subsection

IEEE Mangalore Subsection (MSS) was formed on the 10th July, 2013. The MSS jurisdiction comprises the five districts namely Udupi, Dakshina and Uttara Kannada, Shivamogga, and Chikkamagaluru in the coastal Karnataka and Malnad regions. The subsection today comprises more than 1100 members, among whom 70% are students. The executive committee meets every month during the monthly meetings. The monthly meetings are held in institutes having student branches or industries and incubation centers although it is being conducted in virtual mode for the past few months due to the covid-19 Pandemic.

One of the flagship events is the annual DISCOVER conference which has seen five Aeditions. The 5th edition is DISCOVER will be held during Nov 19-20, 2021 at NMAM Institute of Technology Nitte (https://www.ieeediscover.org). The ―I2CONECCT‖ is another flagship event focusing on undergraduate science and engineering students. A wide variety of project and paper competitions and exhibitions are held along with expert lectures and workshops. The winners of the competition are given cash prizes. Again, host institutions are selected such that all regions are well represented. The Subsection is instrumental in starting the IEEE Day celebrations as Professor K M Hebbar memorial lectures. These commemorative lectures delivered by people of eminence are held in local Industries and so far FIVE events have taken place beginning 2017. The outstanding volunteers are recognized for their services and appreciated by the awards given away during the annual general meeting (AGM). The AGM also sees student branches' presentations of their year-long activities, which are judged to give financial assistance for the next year. The MSS has given away financial assistance of INR 2.56 Lakhs since its inception. The subsection has a registered head office located in NMAMIT Nitte (https://nmamit.nitte.edu.in/). The subsection accounts are audited by CA. The year 2020 and 2021 has seen the inauguration of FIVE new student branches taking the total tally to 16. More than 8 society chapters and two affinity groups were inaugurated. The Subsection has reported more than 150 activities in the vTool and published reports R10 Newsletter. MSS successfully conducted the Google Summer of Code (GSoC) awareness program for the benefit of student members, wherein participants of the previous versions of the GSoC mentored new aspirants. The industries have collaborated with MSS to offer internship opportunities for students. Five Monthly Technology series was conducted by the Industry relations team of MSS, which is attended by good number of students. The Mangalore Subsection places on record its appreciation for the continued support extended by the parent Bangalore Subsection and looks forward to working in unison with the new North Karnataka and Mysore Subsections.
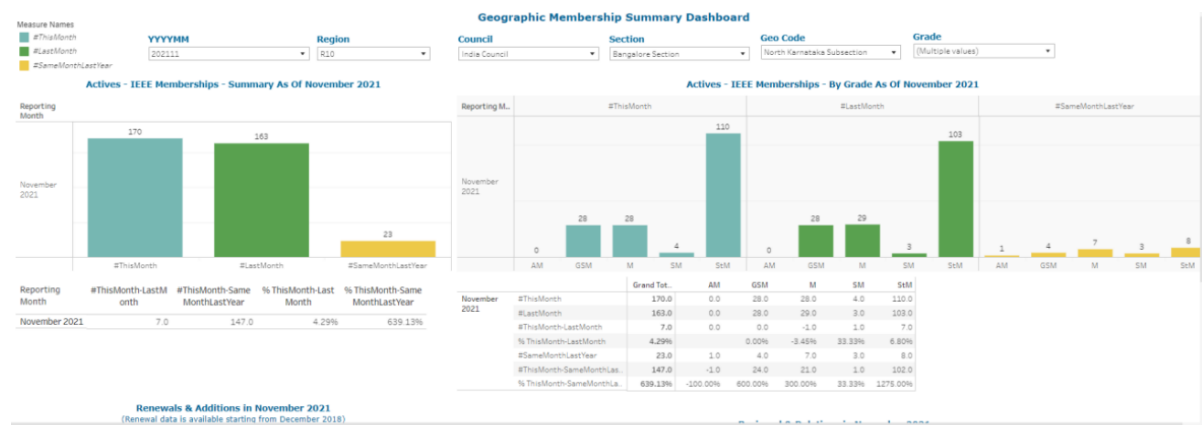
IEEE Mysore Subsection

IEEE Mysore Subsection is the most vibrant subsection and one among the 3 subsections of IEEE Bangalore Section. With the goal of conducting various flagship events, outcome based programmes and technical activities, IEEE Mysore subsection has been catering to the needs of subsection members through its innovative programs like webinar series, workshops and conference. During the prevailing situation of the pandemic subsection has adapted to the virtual mode of conducting activities thereby keeping the students involved and updated with the current advancements in technology. The subsection has not only conducted events that are student centric but also for the faculties and young researchers.

Subsection has conducted more than 50 activities under various categories like technical, non-technical, professional and humanitarian in association with WIE, Information Theory Society and Education society. Webinar series WiLead, Wi-Innovate , Wi-wellness conducted in the month of march as a part of women's day celebration were the most popular initiatives among the students and faculties which gained positive feedback and appreciation. Webinars on technical topics helped the young researchers and students to improve their knowledge on various trending technical topics. Also some of the webinars focussed on creating awareness about the new normal after the COVID. Workshop on effective teaching in practice and talk on National Education Policy focused on up skilling the faculties to new reforms in education and also virtual classroom which is the new normal in the post pandemic era. Workshop on conference organization provided an opportunity for participants to learn the best practices for executing a conference from application submission to Publication of conference proceedings. Electric Vehicle Technology Week Workshop was a weeklong event conducted from 30th August to 3rd September had a plethora of vibrant speakers who spoke on various trending topics related to Electric Vehicle Technology. First edition of the Flagship International Conference Series of IEEE Mysore Subsection IEEE MysuruCon-2021 was hosted at Navkis College of Engineering, Hassan in association with IEEE Bangalore Section 24th & 25th October 2021. IEEE MysuruCon-2021 attracted over 550 scholarly submissions from all over the world. To name a few USA, Malaysia, Indonesia, Philippines, Bangladesh, UK, SPAIN, South Africa, France, Nigeria, Ethiopia and also from premier institutions like IITs and NITs, ISRO, DRDO, NAL in India.. Out of which 150 high quality scholarly submissions were selected for inclusion in the conference proceedings. The proceedings of the conference will be submitted to IEEE Xplore Digital Library. There were 14 parallel sessions. In each Track the Best Presentation was awarded with Certificate. Participation Certificates was issued to all participants. As a part of nominal operation, the section has also successfully conducted the 2 meeting with the BCs on 20th Feb and 27th April respectively through WebEx. In another unique way, subsection had conducted IEEE Volunteers - Walk and Talk which provided a platform for IEEE volunteers from various SBs to network with subsection volunteers. Through the technical and professional activities organized by subsection students got an exposure to various skills required to boost the career of students. They also gained awareness on recent advancement in technologies, market, and career and research opportunities. Non-technical events provided a platform to network and showcase talents and also created awareness on current pandemic situation and measures to lead a healthy life style.

IEEE North Karnataka Subsection

IEEE North Karnataka Subsection (IEEE-NKSS) was formed in July 2020 – R0011902, The key objective was to network professionals in this region and to share the technological developments. This would be achieved through linking industries and institutes of North Karnataka. North Karnataka has 35 Engineering Colleges spread in nine districts, viz. Bidar, Kalburgi, Yadgiri, Raichur, Vijayapura, Bagalkot, Belagavi, Dharwad and Gadag. There are eighteen active IEEE student branches out of twenty six. Total membership base of 500+. Other engineering colleges are coming forward to start IEEE student branches. This will increase the IEEE member and student member base in this region. Major industries in NK region are Sugar, Cement, Agro based product firms, Small scale & Home based. All engineering colleges and student branches in NK are connected with most of these industries through internships, projects and research activities. IEEE membership will help build cordial professional networking to create strong connectivity. Amongst these 18 student branches are active with total membership base of 500+. The role of IEEE Bangalore section in formation of NKSS is commendable, especially Mr. Puneet Misra, past chair IEEE BS and Mr. Bindumadhava present chair IEEE BS, IEEE-NKSS has been active since its inception and has organized/sponsored many events across north Karnataka. IEEE-NKSS was formally inaugurated on 14th September 2020. Since then, it has been very functional in organizing workshops and seminars for both teaching fraternity as well as the students. IEEE-NKSS has encouraged many professionals to be the part of the IEEE fraternity by motivating the faculties and students of this region through membership drives. IEEE-NKSS has motivated in triggering many local chapters to be active part of IEEE from this region. Sub section ExCom meetings were held every month in which some key decisions were made.

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

Some of the highlights or strong points along with best practice are as follows:
- A strong team with passion of volunteering and contributing towards society.
- Mix of experienced and new to volunteering service
- Mix of industry and academia professionals
- Strong encouragement towards developing leadership

Best practices:
- Subgroup with different assignments and responsibilities
- Engage experienced industry experts
- Identify and encourage to apply for senior membership. Workshop (SIMPLE) to let them know the process
- Identify and encourage the senior member to apply for Fellow, Workshop (FINE)
- Student-focused activities
- Free or discounted registration for student members for many events
- Encourage and promote students for conference volunteering

C.6 Problems anticipated and suggestions for solutions if any

Renewal (retention) of Membership

We miss many people who do not renew their membership especially, from students and membership grades. At least half of the members do not renew. We start building and work towards new members joining. Sometimes, we fail to reach what we had in the December of the previous year or manage to get the same of possible few percentage increase if we work really very hard.

Suggested Possible Solutions:
- One way to retain them is to follow up. We do, but may be some more follow up
- We might identify more closely and do the data analysis for few years and look at the pattern and do some corrective action.
- Branch counsellor should be supported by section during passing out or otherwise to follow up the students.
- Create a data base and follow them.
- Take a survey to understand their mind and thinking

PART D - GOALS AND PLANS

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

Let us keep the best practice ongoine, the chair remarks. Most of the events/activities will continue as the success rate has been very high. However where possible, slight variation can be made. Some of the flagship events are planned as given:

CONECCT 2022 – The 7th editon of section's flagship conference will continue and we will encourage more all chapters/AG to participate. The date is decided to be 8-10 July 2022. The mode of conference is yet to be finalized. Most probably, we might have hybrid mode. Already, 22 chapters/AGs have expressed the willingness to participate and lead a track in CONECCT 2022.

Bangalore Technology Conclave (BTC) 2022 – This event will also continue and some of the workshops like Data Storage and others would become the part of the conclave.

BHTC/HTC Related Event – It is also planned and proposed that HTC related event should continue at grand scale.

SYMPOSIUM Series Medium and small size events like 1 day, half day, webinar etc, will continue and subgroups will lead the events. Joint activities across chapters, across SBs, chapters and section should be encouraged and bring into practice.

D.2 Goals and Future Plans

Empowering all ExCom members by delegating responsibility to lead and work in team. Goal is to bring some improvement in all areas, for example, membership count, fund/grant from HQ, government interface/connect, etc. Chair also suggested to strengthen ExCom members. We are all highly skilled and experienced, let us deliver monthly seminar/workshop to some of the student branches, chair informed. The meeting would be action oriented and quarterly review to investigate, what is set and what is achieved

- Mission mode Membership drive – to achieve close to 15000 Members with over 50% of professional categories
- Increasing student memberships
- Industry engagement and involvement
- Joint activities and reach out to sections beyond India
- Compulsory Visit by ExCom members to outside (rural colleges)
- Engagement with NGOs
- Engage more with society chapters

- Societal work – providing technology solution to underdeveloped (at least one area)

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

Chair informed that chapters and student branches should be always active. We have to empowered them and involve them on regular basis. Each ExCom to monthly visit a SB, give talk, interact with management, chairs and office bearers. Such activity will encourage and motivate them. We should visit remote areas SB. We should have regular communication and interaction. Keeping track of membership every month and particularly focusing in March and August in a planned manner.

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

Chair informed the members that government is normally not closely associated with IEEE. We are organizing and conducting lot of events, social reach but we could not interface properly with government. He suggested to continue conducting some events aligned to government objective. Involvement of industry and government is very necessary; and suggested that IEEE Bangalore Section can play a crucial role bridging them.