IEEE
Region 10

IEEE REGION 10
CONNECT

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CONNECT

SECOND EDITION

2022

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WELCOME MESSAGES
Message from IEEE Region 10 Director

Dear IEEE Colleagues,

Hope you and your family are doing well. I see that in most of the countries of Region 10, we are returning to pre-COVID times and, of course, we are embracing learnings from the recent past. But we need to be vigilant, and careful and we must take all precautions to be safe. We are still dealing with uncertainty in terms of event planning, and it is going to take time to organize fully in-person events. In the meantime, we must be open to online options for our programs and activities. In 2022, Region 10 EXCOM meeting was entirely virtual, whereas we could organize Region 10 Annual General Meeting in a hybrid format with great success. The physical venue was Hyderabad, India. I am happy that Region 8 Director Antonio Luque traveled to Hyderabad to attend the meeting. Region 10 committees have come out with various opportunities for member engagements. You will find a continuation of previous programs along with new programs, I encourage you to participate and also organize such programs, and create opportunities for member engagement at the local level.

Region 10 is unique, we are a large, fast-growing, and very diverse region. Region 10 encourages diversity in its committees and programs. We organized a talk on 'Advancing Diversity and Inclusion in IEEE Technical Activities'. The program was part of the R10Talk series and was delivered by Dalma Novak, Chair, IEEE TAB Committee on Diversity, Equity, and Inclusion (D, E, and I). Dalma is also Director of IEEE Division X. All Sections, Chapters, and Affinity Groups are highly encouraged to keep diversity in their respective organizational units. The IEEE President and CEO K J Ray Liu have established several Ad Hoc committees to bring improvements and make IEEE remain an effective and valuable global technical and professional organization in coming years. An Ad Hoc Committee on 'IEEE in 2050' has been established to envision scenarios for IEEE in the future. The committee is working on finding plausible scenarios for the future across IEEE's areas of interest, exploring trends and drivers of change within existing and emerging technology fields, and also determining the role IEEE should take in view of the identified potential futures. 'IEEE as Your Professional Home' is another such Ad Hoc for developing and executing a plan to strategically promote IEEE as one's professional home to member and non-member technical professionals.

I encourage you to watch the following video to learn the vision of our President: http://ieeetv.ieee.org/ns/ieeetvdl/2022/CA_Items_2022/2022_Ray_LIU_IEEE_Your_Professional_Home_2022-lo.mp4. Please also watch https://ieeetv.ieee.org/video/ieee-your-professional-home-in-our-own-words to learn what your colleagues speak about IEEE. There has been significant growth in membership as well as in activities all across Region 10. The performance of Region 10 in Senior Member elevation has been outstanding. There were 2055 elevations against the target of 1500 in 2021. You all deserve great appreciation and thank you for all your efforts and contributions.

Once again, I encourage you to be diversified and think beyond the boundaries of your own Student Branch, Chapter, Section, and Region to collaborate and learn. That will broaden your horizons and give you more opportunities to learn. Wish you and your family lots of happiness, health, peace, and joy.

Looking forward to working with you to further the mission and vision of IEEE.

Best regards,

Deepak Mathur
IEEE Region 10 Director

WELCOME MESSAGES

Message from IEEE Region 10 Newsletter Chair

Dear Region 10 Members,

Eid Mubarak to all our Muslim members. It is my pleasure to welcome you to the second edition of IEEE Region 10 Connect for 2022. This edition continues to feature exciting reports and articles from members and organizational units across Region 10. These include reports on the 2022 R10 ExComm Meeting and the 2022 R10 Annual General Meeting, held last January and February, respectively. The R10 Humanitarian Activities Committee also reported on their recent successful initiative to support projects that utilize innovative technology to address the COVID - 19 situation in Region 10, where the top 5 projects are featured.

Besides, we have three more volunteers and six more organizational units featured in the *Know Your R10 Volunteers* and *Know Your R10 Organizational Units* respectively in this edition for your reading pleasure. And our technical column is also back. This time we are honored to have our Past Director and IEEE Fellow, Prof. Kukjin Chun penning a very interesting and informative article on *Challenges in Sensor*. Continuing from the last issue, this edition also features more montage of IEEE Day celebrations from various Sections across Region 10. Activities and events reporting from various Sections, Affinity Groups, and Student Branches, as well as a compilation of current calls for awards nominations and conference call for papers round-up this newsletter issue.

I hope you will enjoy this latest edition of the IEEE Region 10 Connect. As usual, my utmost appreciation goes to the newsletter team: Prashant, Tridibesh, Bee Theng, Redwan, Wathmini, Garima, Naila, Nabeel, and Vaishali. My appreciation also goes to all the content contributors, without whom, this newsletter issue would not have been possible. As always, you can reach us at r10-ecn@ieee.org, if you have any comments or suggestions to share with us regarding the newsletter.

Thank you and kind regards,

Mohammad Faizal Ahmad Fauzi
Chair, IEEE R10 Newsletter Committee

Committee Member	Portfolio
Mohammad Faizal Ahmad Fauzi	Chair/Chief Editor
Prashant R. Nair	Editor
Redwan Ferdous	Editor
Tridibesh Nag	Editor
Lau Bee Theng	Editor
W. M. W. Sharika Jayalath	Associate Editor
Garima Patel	Associate Editor
M Naila Mukhtar	Webmaster/Social Media
Vaishali S.	Webmaster/Social Media
Nabeel Ahmed Masoodi	Graphic Designer/Social Media

1. REGION 10 UPDATES

IEEE Region 10 Executive Committee Meeting 2022

9th January 2022, Virtual Meeting
Mohammad Faizal Ahmad Fauzi, Chair for IEEE R10 Newsletter Committee

2022 IEEE Region 10 Virtual ExCom Meeting
9 January 2022

IEEE Region 10 Executive Committee held their virtual 2022 meeting on 9th January 2022. The meeting, held from 7.30 AM to 1.15 PM Indian Standard Time over Webex virtual meeting platform, was attended by all the executive committee members of IEEE Region 10 for the year 2022. Largely unchanged from the 2021 lineup, the R10 Executive Committee is made up of the Director (Deepak Mathur), Director-Elect (Lance Fung), Past Director (Akinori Nishihara), Secretary (Sameer SM), Treasurer (Rajendrasinh Jadeja), three Vice-Chairs (Zia Ahmed, Byung-Gook Park, Nirmal Nair), 18 Larger Executive Committees (Wu Qun, Takao Onoye, Michael Ong, Preeti Bajaj, Jong Chang Yi, Jing Dong, Sanjay Chowdhury, Kurnianingsih, Rajendra Asthana, JeongYon Shim, Mohammad Faizal Ahmad Fauzi, Parkash Lohana, Amit Kumar, Seishi Takamura, Jennifer Chua Dela Cruz, Warunika Hippola, Emi Yano, Saaveethya Sivakumar), three Advisory Committee (Kukjin Chun, Ramakrishna Kappagantu, Toshio Fukuda) and Project Manager (Ewell Tan).

This is the second year in a row that the meeting was conducted virtually. Similar to the 2021 meeting, to accommodate members from eight different time zones within Region 10, the meeting was only scheduled for just over half a day. The meeting started with an address by R10 Director, Deepak Mathur, who gave an update on the region's activities and achievements for the year 2021. This is followed by messages by IEEE Past President, Toshio Fukuda and Past VP MGA, Kukjin Chun, both of whom sit on the R10 Advisory Committee. Zia Ahmed, Vice Chair for Technical Activities then proceeded to present the newly proposed R10 Robotics Competition to all members. Activities and plans for each R10 portfolio for the year 2022 were presented for review and approval. The presentations were led by the three R10 Vice-Chairs, Zia Ahmed (Technical Activities), Byung-Gook Park (Membership Activities), and Nirmal Nair (Professional Activities). Akinori Nishihara then presented the updates from the

R10 Advisory and Nomination committee, before the financials and budget, were elaborated by R10 Treasurer, Rajendrasinh Jadeja. The meeting concluded with the sharing of the 2022 meeting calendar and AGM agenda by the Secretary, Sameer SM.

IEEE Region 10 Annual General Meeting 2022

26th – 27th February 2022, Hybrid Meeting

Ewell Tan, Project Manager for IEEE Asia-Pacific Limited

For the first time, IEEE Region 10 has its Region 10 Annual General Meeting held in a hybrid mode in two physical venues; Hyderabad, India and Jeju Island, South Korea. A total of 134 IEEE volunteer leaders and staff had participated in this meeting (38 in-person attendees and 96 remote participants).

IEEE Region 10 Director, Deepak Mathur gave an opening remark to welcome all the delegates. In his welcome message, Mr. Deepak also shared the highlights of Region 10's growth and milestones and concern topics. Region 10 was honored to have IEEE President, K J Ray Liu present at the meeting to share his vision of creating an IEEE professional home for the engineering, science, and technical communities. IEEE Executive Director, Stephen Welby, IEEE MGA VP, David Koehler, and IEEE MGA Managing Director, Cecelia Jankowski, had also presented a wide horizon of IEEE initiatives, products, and services to engage and empower IEEE members.

Followed by the insightful presentation from the distinguished guests, the Vice-Chair of R10 Membership Activities, Byung-Gook Park; Vice-Chair of R10 Technical Activities, Zia Ahmed, and Vice-Chair of R10 Professional Activities, Nirmal Nair had presented their committee's upcoming projects respectively and encourage all the IEEE volunteer officers to support their members to get involved in these exciting events and projects.

On the second day of the meeting, Region 10 meeting delegates had an opportunity to learn the organizational aspects and best practices shared by invited Regional Directors, Theresa Brunasso from Region 3; Bob Becnel from Region 5; Antonio Luque from Region 8, and Enrique Tejera from Region 9. On the other hand, the organizers of the 2021 R10 flagship conferences also presented their reports with a warm welcome to the participants to take part in the upcoming 2022 Region 10 flagship events (TENCON2022, TENSYMP2022, R10-HTC2022, and SYWL2022).

REGION 10 UPDATES
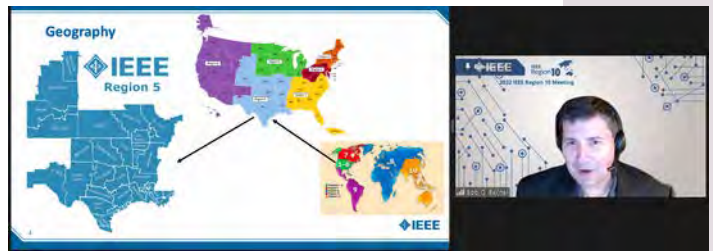
The meeting was concluded with an informational presentation and a fruitful discussion. Region 10 had a pleasant and engaging hybrid meeting experience and foresee hybrid mode could be the future for work and to hold meetings.

IEEE Region 10 Humanitarian Technology Activities Committee

Preethika Nallani, Newsletter Committee for IEEE R10 HTA, and Jing Dong, Chair for IEEE R10 HTA

IEEE Region10 and IEEE HAC have partnered to conduct a special Call for Proposals in Region 10 to support projects that utilize innovative technology to address the COVID-19 situation while keeping safety as the highest priority.

With this Call for Proposals, IEEE Region 10 and IEEE HAC aim to engage IEEE members in meaningful humanitarian technology and sustainable development activities, foster the development of IEEE relationships with communities and stakeholders at the grassroots level, and incubate a geographically diverse selection of innovative prototypes that could potentially be scaled up in the future – all with safety as the highest priority.

A total of 26 projects were selected under this project call and given a six-month duration to complete their projects. All projects are successfully completed, with the top 5 projects briefly discussed below. These 5 projects are selected due to their unique qualities and special objectives and have been actively implemented in their areas/localities in collaboration with NGOs.

Dr. Gayatri Phade (Bombay Section) (R10-HTA-04)
The blood test required for corona treatment requires one to collect the blood samples and send them to the laboratory for testing at the earliest. Further, corona patients need blood for their fast recovery, which again needs to be collected from pathology or blood bank, as per the requirement. This transportation from one place to another is time-consuming and prone to contamination. These are further complicated by traffic and/or road infrastructure. Transportation of biological specimens is currently done by various types of transport (plane, train, car, bicycle). Drones will revolutionize the transport system to handle such issues. This project proposed to develop a drone named 'Maruti 2021' to assist the medical emergency team in the event of COVID-19 or other pandemics. It will deliver a blood bag, collected blood samples, and food packets like life-saving essentials for any COVID-19 patient avoiding contamination and ensuring fast delivery.
Video Link: https://drive.google.com/file/d/1Xr2PXaT17FDMdebWtB5uFWl6yXU-HQcf/view?usp=sharing

Elizabeth Lovin (Kerala) (R10-HTA-26 & R10-HTA-34)
The education field was really affected by the impact of COVID-19. Online education is comparatively less effective than offline classes since there is minimal physical interaction between students and teachers and students feel isolated. It is difficult especially for students in professional colleges to understand the concepts in online mode. In order to make a difference in this situation, we associated with Infosory Future Tech Labs Pvt Ltd and developed an app called TutAR app to bring SPARK. We implemented it to the LP students at Elampara LP School, Punnekadu LP school, Josephine LP School, and Vettampara Schools in Kerala. AR helps in visualizing the concepts which will definitely help students to learn better even in the online system. We would like to extend to more schools after successful completion. AR system is highly interactive in nature and operates simultaneously in real-time. The project gave unique digital experiences that blend the best of the digital and physical world. The members of the team were provided with training sessions at different phases of AR which were informative and efficient; these helped them in the implementation process.
Video Link: https://drive.google.com/file/d/1CNecPuhK2xAp05ezFsRZstiPQPRADmj7/view?usp=sharing

Dr. Aparna Dixit (Uttar Pradesh) (R10-HTA-36)
The Health Care Ecosystem in Uttar Pradesh that caters to primary and secondary levels of care has 3,621 Primary Health Centres (PHC) and 821 Community Health Centres (CHCs). PHCs/CHCs identified for COVID-19 management need to have a 24x7 assured oxygen supply (oxygen cylinders, oxygen concentrators, or other means). These CCCs should be mapped to one or more dedicated COVID Health Centers (DCHC)-PHC at least. To address the health care needs, an adequate number of oxygenators is needed as follows:
- For 30 beds DCH concentrator (even 25% capacity means 8 concentrators per DCHC/PHC)
- For 100 beds DCH concentrator (even 25% capacity means 25 concentrators per DCH/CHC)
- For 3621 PHCs, estimated 3621*8 oxygen concentrators = 28,968 bed side concentrators.
- For 821 CHCs, estimated 821*25 oxygen concentrators = 20,525 bed side concentrators Required oxygen concentrators = 28968 + 20525 = 49,493
Video Link: https://drive.google.com/file/d/1OdakIEdExO1M9pE3AFDZT0C1F5k8H2I/view?usp=sharing

Indra Ryanto (Indonesia) (R10-HTA-57)
This project develops a strap-on motor for wheelchairs used by disabled persons to minimize the risk of surface contact due to the hand propelling of the drive wheel. The project is to provide one prototype pack consisting of a pair of drive motor wheels and a hand controller. During the project time frame, we found it difficult to coordinate the effort of the team for the building phase due to the Delta variant surge in infection cases, in which several team members are also infected and a global surge of 2nd wave infection also causes delays in the delivery of the motors. The challenging aspect for future work is the severe devaluation of our currency that causes a significant rise in component procurement.

Video Link: https://drive.google.com/file/d/1-XHhry9j-XP2jK7nSaHqnIrE6nyaSFdT/view?usp=sharing

Owais Liaqat (Lahore) (R10-HTA-03)
Nowadays, we are suffering from the coronavirus pandemic. It is a virus that spreads through the physical interaction of people when they do not maintain social distance. Now the world is developing so fast that we cannot stop working and staying at home for a long time. The only way through which we can save ourselves is by considering SOPs and social distancing. So for this purpose, we conducted Virtual Awareness Seminars and introduced a project regarding the social distancing alert device, which has been installed at the administrative offices of the Faculty of Engineering, The Islamia University of Bahawalpur. This device alerts students/faculty to maintain the proper social distance from the clerical staff. In our university, students visit the clerk's office during the whole day, which means there is a massive interaction between clerical staff and students/faculty. So to save our faculty, clerks, and students from this virus, we have installed this social-distancing device at the admin offices.
Video Link: https://drive.google.com/file/d/1E42j6dLmYC9vn0VddsP-y-qMtJol1-2u/view?usp=sharing

2. KNOW YOUR R10 VOLUNTEERS

R10 Volunteer – Lau Bee Theng [Sarawak Subsection]

2021 R10 HTA Outstanding Volunteer

Lau Bee Theng currently works as a Director at the School of Research and a Professor at Swinburne University of Technology Sarawak Campus. She is an active IEEE Sarawak Subsection, IEEE Malaysia Section, and IEEE Region 10 volunteer who has fostered technological innovation and excellence that aligned well with the IEEE tagline of advancing technology for humanity and creating values and benefits for communities with special needs, disabilities, children, and youth for more than a decade. The recognition of her leadership is evident in the various present and past IEEE positions at national and international levels such as IEEE R10 newsletter committee and editor, IEEEXtreme proctor, IEEE STEM ambassador, Smart Village, Subsection Chair, Education Activity Chair, Treasurer, Malaysia WIE Student Network, Swinburne Sarawak Student Branch Advisor, IEEE SIGHT Sarawak, IEEE R10 HTA, etc.

Her impact in creating values and awareness in the communities is also demonstrated in volunteering actively for many knowledge and technology transfer programs, e.g. data science for primary school students, orientation and mobility (O&M) workshop for community practitioners, STEM robotics for junior secondary school students, teacher-in-service-programs for school teachers, water-food-energy security to youth, portable clean water system for the rural poor, and kitchen waste to fertilizer.

She has led with exceptional performance during her candidacy as the Chair for IEEE Sarawak Subsection (2017-2018). IEEE Sarawak Subsection won MYR100,000 corporate social responsibility fund from industry in Sarawak with high standing community engagement proposals. As recorded by IEEE Malaysia Section, it was the first time IEEE entities in Malaysia won such prestigious recognition from the industry; when IEEE Sarawak was less than two years old (started in 2016). This fund has been utilized to advance the technologies for the benefit of communities.

She led the young IEEE Sarawak Subsection to secure international recognition as well as national-level successes. IEEE Sarawak was the first Subsection in IEEE Region 10 which gained support from IEEE HAC, IEEE R10, Swinburne Sarawak and thereby successfully bid and organized one of the three flagship conferences of IEEE Asia Pacific, the IEEE R10 HTC 2020. The conferences attracted hundreds of researchers from India, Bangladesh, Philippines, Sri Lanka, Indonesia, Japan, China, Australia, Mongolia, Singapore, Taiwan, UK, USA, France, etc. The surplus income from this non-profit IEEE R10 HTC was used to organize other upcoming humanitarian technology activities to improve the communities' wellbeing in IEEE Region 10. In addition, IEEE

Sarawak functioned as the technical sponsor for several international conferences and professional activities. The community and industry collaborations signified IEEE Sarawak as one of the most active Subsections in IEEE Asia Pacific.

With the snowballing societal impact, her team received external funding and completed many programs that positively impacted people's lives. Despite Malaysia and global movement controls and lockdowns, she initiated and led the projects on community empowerment - safe and sustainable food production; vulnerable community empowerment - hygiene and clean water production; youth empowerment - tackling water-energy-food security nexus; and virtual discussion platform on the digital ecosystem for humanity. Even during the pandemic, she was committed to sharing the culture, values, motivation, and mission of humanitarian technologies with many volunteers. Her invited sessions included humanitarian technologies for addressing COVID-19 issues, maintaining a balanced life as a researcher, advancing computing research for a post-pandemic society, and STEM activities (IEEE R10 International COVID-19 Congress 2020, IEEE R10 International WIE COVID-19 Congress 2021, International Conference in Information and Computing Research 2021, IEEE Day Malaysia 2021). Her activities have been well-recognized, and she was nominated for IEEE Malaysia Outstanding WIE Volunteer 2020. Apart from this, she has won IEEE Malaysia Outstanding Volunteer 2018, the Swinburne Vice-Chancellor award for community engagement team 2018, and IEEE R10 Outstanding HTA Volunteer 2021.

R10 WIE Volunteer – Paulina Chan [Hong Kong Section]

2021 MGA Leadership Award Winner

Spring greetings to everyone
I started my IEEE journey as a Graduate Student Member chairing the Imperial College London Student Branch, and published my first peer-reviewed paper at the ICC, entitled "Videoteleconferencing - Promise or Threat?" some time ago. Exposure to global networks and experts in so many technical fields was essential for a young engineer to find her footing.

I am a strong advocate for women and young professionals. Thanks to Emi Yano, IEEE R10 WIE Chair, I am delighted to be a founding mentor of "MentorHer" (2021). It is a great success in matching mentor-mentees pairs from various countries and diverse disciplines in the Asia Pacific. MentorHer kicked off the 25th Anniversary of WIE on International Women's Day 2022. The program has also been endorsed as a golden thread to link across IEEE communities by the President's Ad Hoc Committee via "IEEE as Your Professional Home" of which I co-chair.

Further along, I am also the founding Vice-Chair and Chair of WIE Hong Kong (2016), a member of the Industry Outreach Board and Industry Relation Liaison of WICE at ComSoc (2022), and ExCom Member of WIE International Leadership Conference (since 2017). Motivating young people on STEM, I am founding Chair of the Pre-University Student STEM Forum showcasing IEEE TryEngineering, and that of Tech-Biz Hackathon for Young Professionals in soft skills training to empower leadership and management.

I am a global citizen. My career in multinational corporations spans three continents in New York and New Jersey (R1), London (R8), China, and Hong Kong (R10). An invaluable asset I have benefitted from IEEE is the multidisciplinary membership and camaraderie, as well as cohesion among its members. I can find members of all ages, cultures, and nationalities from around the world with different occupations and specialties. Diversity and inclusiveness are hard to find in most other organizations.

My other volunteering services in 2022 are as interesting and inspiring. I am Chair of the Public Visibility Committee showcasing the IEEE branding, members as impact creators, and technology advancements worldwide. I am also the representative of Member and Geographic Activities (MGA) as Chair of the Outreach & Coordination on the Diversity and Inclusion Standing Committee.

I must thank members of the Hong Kong Section for their dedication and passionate teamwork when I was the two-term Chairperson of the Section (2020 & 2021). Together we revitalized the frail OU with 200% membership growth through active membership recruitment, engagement, retention, and elevation. We collaborated with external organizations and non-technical audiences, such as the Women's Foundation on GirlsGoTech, and the Hong Kong Government on innovative technology advice. We have demonstrated the added value of IEEE reaching locals. The Hong Kong Section won many awards including the flagship MGA Outstanding Large Section Award 2021 and the Region 10 Outstanding Large Section Award 2021!

Moving forward, as General Chair of TENCON 2022 cum the 50th Anniversary of the Hong Kong Section, I would invite you to attend and submit quality papers themed "Tech-Biz Intelligence". Embracing the new norm, TENCON'22 brings together academia, industry professionals, and leaders of public and private sectors for sustainable development. IEEE is inextricably linked with my professional life, and I can proudly say that joining IEEE is one of the best decisions I have ever made. I have received tremendous support in my endeavors and in recognition of my efforts was given the IEEE Member and Geographic Activities Leadership Award for 2021! I have worked on areas close to my heart. If a home is where your heart is, IEEE is my professional heart's abode. IEEE is my Professional Home!

R10 Student Volunteer – Chamika Sudusinghe [Sri Lanka Section]

2021 R10 Special Recognition to SAC Volunteers

Chamika Sudusinghe is a final year undergraduate from the Department of Computer Science and Engineering at the University of Moratuwa, Sri Lanka. He has been an active IEEE volunteer since 2018 and was part of the many projects organized at the Student Branch, Section, and Regional levels. Currently, Chamika is serving as the Secretary of the IEEE Region 10 Student Activities Committee. Chamika commenced his IEEE volunteering journey with the IEEE University of Moratuwa Student Branch (SB), one of the most active Student Branches within the Sri Lanka Section. He contributed to multiple projects as a volunteer, including IEEEXtreme & IEEE Day, and has served as the webmaster for the SB for almost two years, since 2019. The SB secured several awards and accomplishments both globally and locally during his

term on the executive committee. Chamika considers his contribution to organizing MoraXtreme as one of his significant achievements. As a volunteer leader in the SB, he worked with more than 50 volunteers to organize MoraXtreme 4.0, a coding competition to provide adequate practice for students in getting ready for IEEEXtreme. During Chamika's term as the Chairperson, the organizing committee of MoraXtreme launched it as an all-island competition for the very first time. It paved the way for more than 1000 students in the Sri Lankan university community to get ready for IEEE Xtreme, making it one of the largest coding competitions in Sri Lanka. As an IEEE student member, Chamika has participated in multiple events organized in the Section since 2018.

IEEE Techno Meetup, which focused on emerging technologies, was one of his earliest events. In 2018, he joined the IEEE Sri Lanka Section Congress, which is the flagship event of the Section, as a delegate. It was a turning point for him, as he got exposed to the bulk of the Sri Lankan IEEE volunteering community there. In addition, the Sri Lanka Section Congress sparked interest in him to step into volunteering for projects in the Section. Chamika then served as the Secretary of IEEE SLInspire, which envisioned providing equal access to quality education to all student communities in Sri Lanka. Back then, the project was in its inceptive year, primarily focusing on a school seminar series and research collaborations. Since then, IEEE SLInspire went on a long journey, widening its scope as years flew by. In 2019, Chamika became the Secretary of IEEE Techno Meetup, in which he was able to manifest his skills as a volunteer leader. This was a significant step in his voyage to become the Section Student Representative of the IEEE Sri Lanka Section.

Chamika has made significant contributions to streamlining the student activities of the IEEE Sri Lanka Section. During his stint as the Section Student Representative (SSR) of Sri Lanka, the Section witnessed the introduction of a new committee structure for the Student Activities Committee (SAC). This new strategy contributed to increasing the number of volunteers getting opportunities at the national level and increasing efficiency, thus enhancing the volunteer experience and project impact. He was instrumental in initiating the event "IEEE Boost 2020", which continued its success in the following year as an important event focusing on membership drives and leadership training. Together with the Awards & Recognition Subcommittee of the SAC, he contributed to introducing a recognition program for the Student Branches to encourage them to apply for global awards and recognitions.

Chamika has served as the Vice-Chair for Publicity in IEEE PES Global Student Congress 2020 and was one of the main contributors to ensuring the success of this global student event. He operated in an involuted environment, with a team of volunteers from 4 different continents. With his drive to promote the event and ensure proper representation on all platforms, Chamika was truly an asset to the IEEE PES Global Student Congress 2020. Recently, he served as an organizing committee member of regional events by IEEE Region 10 Young Professionals: Sparklers Summit & Career and Leadership Aid Program (CLAP).

In 2020, Chamika became the first Sri Lankan student to win the Richard E. Merwin Scholarship Award. In addition, he became the first Sri Lankan to win the Upsilon Pi Epsilon Honor Society Award. In 2021, Chamika won the Section Outstanding Student Volunteer Award. Over the last few years, his achievements have motivated and inspired many students to come forward as volunteers. Since his school days, Chamika showed his leadership skills and commitment to implementing activities for the betterment of the community. Before joining IEEE, he volunteered for multiple organizations, including AIESEC of the University of Moratuwa and the Entrepreneurship Society of the University of Moratuwa. During the past few years, Chamika moved towards IEEE because he considers IEEE as the place that exposed him to a diverse set of initiatives which gave him ample opportunities to utilize his skills and learn and improve what he lacked. As a volunteer, he had many opportunities to experiment and contribute to making a difference in his local community. He believes that the experience one gains from being a volunteer will serve as a toolkit for tackling challenges in life. Chamika continues to educate and encourage the young breed of volunteers and strives to create more opportunities for young volunteers to reach the highest level possible.

KNOW YOUR R10 VOLUNTEERS

3. KNOW YOUR R10 ORGANIZATIONAL UNITS

R10 Large Section - IEEE Indonesia Section

Wahyudi Hasbi, Chair for IEEE Indonesia Section

The IEEE Indonesia Section was established on 16th February 1988. It currently has 2983 active members as of February 2022. The Section has been awarded 2021 Outstanding Section Membership Recruitment and Retention performance by IEEE. This membership number has increased significantly in recent times. In 2021, there was an improvement in the number of active members as well as six new Student Branches and one Technical Joint Chapter.

The capital city of Indonesia is Jakarta, a popular destination for many businesses and events. Besides Jakarta, Bali and Yogyakarta are the most popular cities for IEEE conferences and events. The Indonesia Section has steadily grown its membership base by focusing on many targeted initiatives. In 2021, IEEE Indonesia Section ran more than 200 activities. The Section has organized several events at the national level and international levels. At the national level, the signing of the MoU with the Directorate General of Higher Education, Research & Technology, Republic of Indonesia, was a major event. This event triggered most education institutions (private and public ones) to cooperate and collaborate with the Section. Moreover, three events were inaugurated by the Minister of the Republic of Indonesia, and two of them had more than 1000 participants and were covered by many online media. At the international level, the Section organized the IEEE Innovation Nation Program for the first time. Chapters, Student Branch, and Affinity Group also had several major and remarkable events.
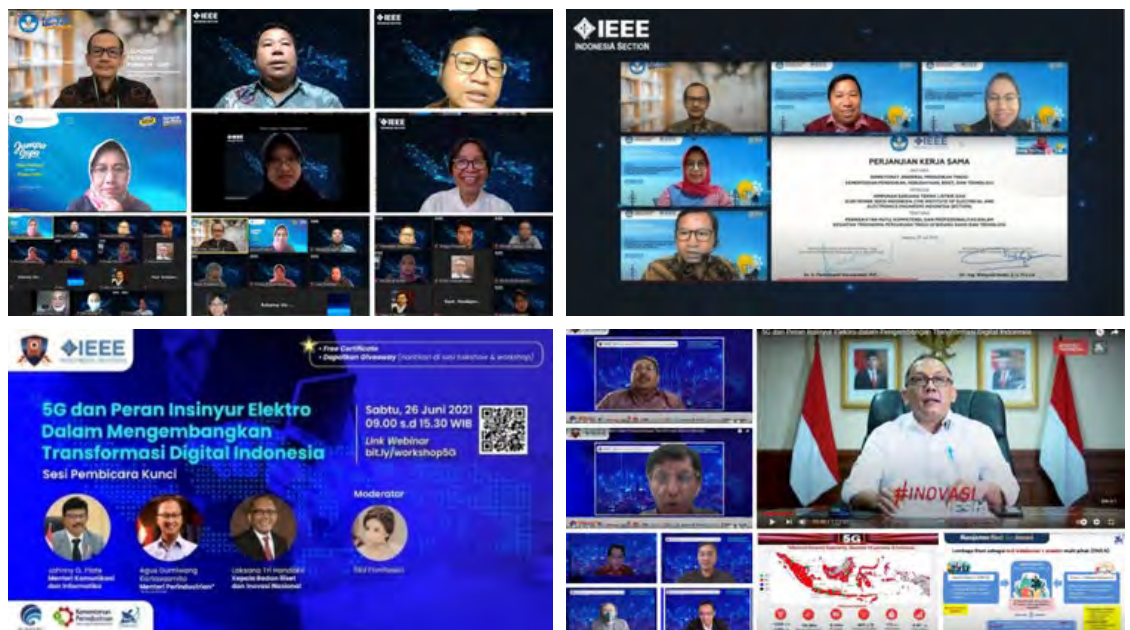
Indonesia Section has done several innovative initiatives that prove the retention and growth of members by strengthening relationships and collaborations internally between Sections, Chapters, Affinity Groups, Student Branches, and externally as a Penta-helix collaboration — bridging student and lecturer internship programs in various industries and Indonesian research institutions. The Section also supports and facilitates the participation of IEEE Indonesia's Student Branch in IEEE contests and events, including the famous IEEExtreme.

The Section holds IEEE Conference Quality Management workshops regularly in the local language. IEEE Indonesia also provides a new payment system in local Rupiah currency for membership fees that assists all Indonesian members and new members who don't have credit cards or other electronic payment accounts. The Section has streamlined e-notice communication, upgraded & enhanced the website, and engaged with social media platforms like Twitter, YouTube, Facebook all @ieeeindonesia, and Instagram @ieee.indonesia

In 2022, IEEE Indonesia is implementing several activities related to higher education, student, industry & professionals, strengthening the collaboration with the national engineering society, and many other activities that will benefit the members of IEEE in Indonesia.

# R10 Medium Section – IEEE Islamabad Section

Bakhtawar Nawal, Member of IEEE Islamabad Section SAC, and Ahsan Farooqui, Secretary for IEEE Islamabad Section

IEEE Islamabad Section started as a Subsection in 1998 and became a Section in 2000. Since then, the Islamabad Section has grown to become the largest of the three Sections in Pakistan with respect to memberships. IEEE Islamabad Section aims to foster research and development activities along with technical activities. The Islamabad Section has been actively involved in providing a smooth process for universities and members to conduct technical conferences. In 2021, the Section approved technical sponsorship of 12 conferences in different technical fields. It also conducted a Panel of Conference Organizers workshop to educate conference organizers on how to follow best practices while organizing a conference. Through its society chapters, the Section conducted several technical workshops, seminars, and webinars for both IEEE members and non-members all around the world. In 2021, the AP/MTT/EMC/CAS joint chapter and CIS Chapter won multiple grants to conduct several activities in the Section.

Another focus area was to work with local schools to empower the local teachers and school students. To achieve that, IEEE Islamabad Section won 2 different grants from IEEE Region 10 Educational Activities and successfully conducted two activities: a TISP workshop, that involved in-person sessions with school faculty, focusing on the necessary skills and software beneficial for teachers to get acquainted with; and a STEM event titled "Fostering youth with STEM" that enabled students at high school to get a flavor of different avenues of engineering they can take. Through these activities, the Section was also able to build stronger connections with schools for future activities.

Student activities in the Section have always been a source of inspiration for young leaders and engineers. This year was no different. The Student Activities Committee (SAC) held leadership summits, Islamabad Section students congress, and other activities throughout the year to engage volunteers from all the 30+ student branches. Furthermore, the SAC team also assisted in delivering membership development seminars to different universities and has been extremely effective in achieving membership recruitment and retention goals as set by the IEEE membership development committee.

KNOW YOUR R10 ORGANIZATIONAL UNITS

Peshawar Subsection, which is part of the Section, conducts its own activities in the different domains. Through bi-monthly Excom meetings and other communication channels, the Section stays connected with Peshawar Subsection officials and helps them in arranging events in their Subsection.
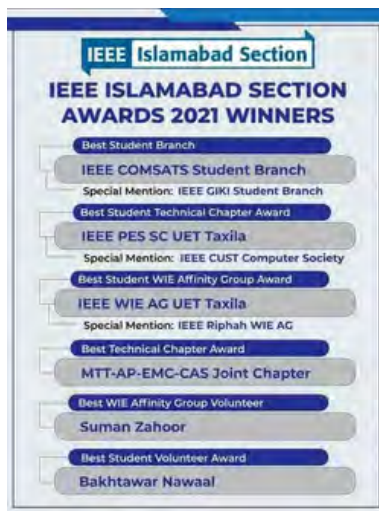
Each year, the Islamabad Section recognizes its most active volunteers, Student Branches, and technical chapters and presents them with awards. These awards are managed by our awards committee and are presented to volunteers at the Annual General Meeting. This year, the Section presented 6 awards and 3 special mentions to different volunteers, Student Branches, and chapters.

Lastly, for better communication with volunteers, the Section uses mailing lists, social media, and e-notices to reach out to volunteers. For higher grade members, the Section arranges an Annual General Meeting each year. Annual General Meeting 2021 was organized by IEEE Islamabad Section at the Islamabad club that was attended by over 70 professional members. The AGM provides a good opportunity to interact with professional members, adding value to the IEEE membership.

R10 Subsection - IEEE Fiji Subsection

Utkal Mehta, Secretary for IEEE Fiji Subsection

IEEE Fiji Subsection was established in 2015. Initially, it was closely associated with the IEEE New Zealand North Section. Though the Fiji Subsection is small, it looks after IEEE USP Student Branch and the IEEE USP Industry Applications Society (IAS) Student Chapter. The Section is continuously engaging students and young engineers with various seminars and workshops free of charge.

The Fiji Islands, a pacific island country, is a popular tourist destination with a hidden paradise and thus very attractive for events and conferences. In 2016, Fiji was the host of the 7th IEEE International Symposium on Sensorless Control for Electrical Drives (SLED 2016) in Denarau, Nadi Fiji. Fiji was also the host country for IEEE Asia Pacific World Congress on Engineering from 2015 to 2017.

The major objective of this Subsection is to prepare young engineers to excel and provide a solid foundation in core competencies, inculcate professional and ethical attitudes, and an academic environment. It always focuses on students making global connections with people who can help them along the targeted career path through IEEE's international community of members and volunteers. Recently after the COVID-19 pandemic, the Subsection has been able to make a contribution to society with funding from IEEE SAC/HAC. Looking at various challenges for Fiji such as climate change, the remote location of the islands and limited access to the internet and electricity, a wide range of activities are possible to promote IEEE and STEM as a subject. Nevertheless, our second focus would be to prepare students to excel and provide a solid foundation in core STEM areas. Therefore, the Subsection's plan is to encourage members to come forward and help people with innovative technological solutions. This will not only provide a platform for IEEE but also provide an opportunity to promote humanitarian values.

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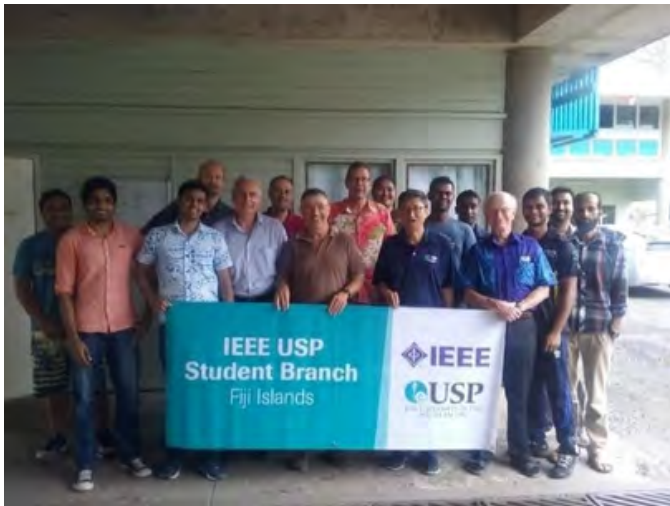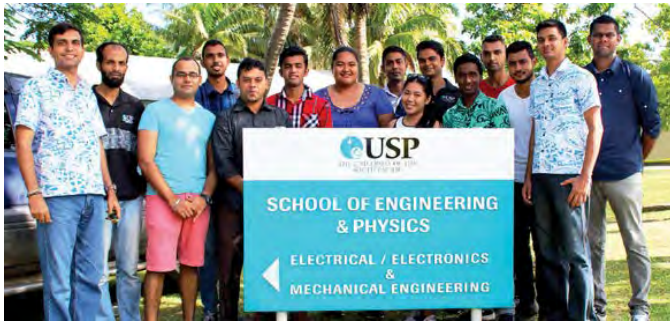
Moving forward, the focus of the Subsection will be to connect the community via better ways of communication. The Subsection has decided to appoint the experts to upgrade the website, and Facebook page and regularly conduct meetings with members. The Fiji Subsection has won several awards and honors. Some of these recent achievements include:

- 2016 IEEE Young Engineers Humanitarian (AIYEHUM) Challenge - awarded funding for the Eye-Slate project covering educational slate to teach blind and visually impaired children.
- 2017 Best Paper award by members from Fiji for the paper title "Experimental application of the least-squares technique for estimation of double-layer supercapacitor parameters" at the 20th International Conference on Electrical Machines and Systems (ICEMS), Australia.

2021 fund received under HAC/SAC for the project - Educational Resource Centre (ERC) for remotely-located school students in Fiji: Free to All by Dr. Utkal Mehta, USP, Fiji.

R10 Council - IEEE Japan Council

IEEE Japan Council Manga Project for Promoting STEM fields

Takako Hashimoto, Chair for IEEE Japan Council

There are about 14,000 IEEE members in Japan and 9 Sections are located in Japan. IEEE Japan Council was established on 25th June 1999 to serve as a link between these Sections. Takako Hashimoto, Chiba University of Commerce is presently the Chair of the council. IEEE Japan council promotes IEEE activities in all of Japan. IEEE Japan Council has now come up with the free release of three mangas (both Japanese and English versions) to promote awareness of STEM fields.

Project Outline:
IEEE Japan Council Student Activities Committee (Chair: Kohei Ohno, Meiji University) organized a Manga plot contest for IEEE student members. IEEE Japan Council, DNP, Maruzen Yushodo (IEEE's exclusive distributor in Japan), and professional manga artists served as judges to select the following three works from the student entries and publish them as comics.
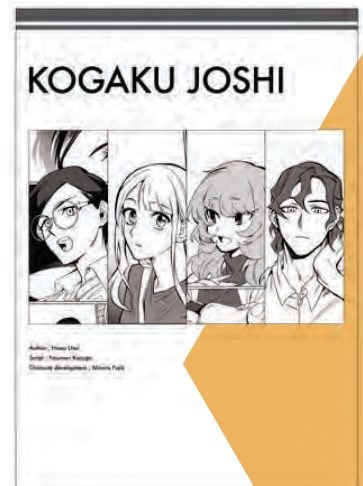
"ORIKOU! Riko-chan (Clever Riko-chan)" (Japanese / English)
- <u>Author</u>: A student of the Department of Environmental Science, International College of Arts and Science, Fukuoka Women's University
- <u>Story</u>: Riko-chan, a genius science girl who can hardly be considered an elementary school student, uses mathematical models and simulations to solve the little mysteries of everyday life in this new kind of coming-of-age mystery.

"SANSHIN CHO-DE! (Sanshin Brothers)" (Japanese / English)
- <u>Authors</u>:
  - A student of Mechanical Engineering Course, Graduate School of Science and Engineering, Aoyama Gakuin University.
  - Assistant Professor, Department of Mechanical Engineering, College of Science and Engineering, Aoyama Gakuin University.
- <u>Story</u>: A love story set in Okinawa about a Sanshin (musical instrument) craftsman and a female university student studying acoustic engineering.

"KOGAKU JOSHI (Girls in Engineering)" (Japanese / English)
- <u>Author</u>: A student of the Department of Electrical Engineering and Computer Science, Tokyo University of Agriculture and Technology.
- <u>Story</u>: Three girls studying in the Department of Engineering, find their own way by rethinking "engineering" from their own perspectives.

- Copyright： The Institute of Electrical and Electronics Engineers(IEEE)
- Authors： Students of IEEE Japan Council Student Activities
- Editors: Researchers, students, and office staff of IEEE Japan Council
- Script: Yasunori Kasuga
- Character Development: Gatakett Co., Ltd.
- Published by MARUZEN-YUSHODO Co., Ltd.
- Production Support: Dai Nippon Printing Co., Ltd.

How to Access:
IEEE members and non-members can access the website by filling in the required information at:
https://sites.google.com/ieee-jp.org/manga-project/english

For more information, please contact:
IEEE Japan Council Secretariat jc@ieee-jp.org

R10 Student Branch - IEEE Silver Oak University Student Branch

Satvik Khara, Founding Member for IEEE Silver Oak University Student Branch

IEEE Silver Oak University (SOU) Student Branch was inaugurated in 2017 with 17 members and has grown to 183 members within five years. During this period the SB has maintained a certain level of practice to bridge the gap between industry and young academicians by fostering and offering an intellectually engaging university atmosphere. The SB has created an environment for all the students, faculty members, and specialists in the area to connect and learn from one another.

IEEE SOU Student Branch has been aiming to accomplish its motto since its establishment, expanding from a few members to a strong team within five years. Due to its tireless efforts, it has received outstanding honors at the Section level, as well as being exalted with the R10 SAC Outstanding Student Branch award 2021. IEEE SOU SB continuously strives to develop students' experiences by providing and nurturing the best learning opportunities. With the desire to achieve the purpose and vision of IEEE, the SB has effectively undertaken several events and initiatives for social and technical upliftment.

"*Engage and Educate*" - with this tagline, IEEE SOU SB strives to provide an interactive environment for learners to develop professional and technical abilities while also sharing their expertise with fellow student members. Some of its recent achievements include:

- 2021 IEEE R10 SAC Outstanding Student Branch Award
- 2021 Best Student Branch, IEEE Gujarat Section
- 2021 Best Student Branch in Membership Development
- 2020 Outstanding Upcoming Student Branch Award, India Council
- 2020 Runners Up, Student Activities, and WIE Coordination Contest, IEEE R10 SYWL Congress

These achievements have proffered the SB to continue to put forward new ideas and exceed its standards. These milestones are not only a dignified and deserved achievement for the SB but also a phenomenal case-in-point of its persistent success as a team.

R10 Student Branch - IEEE University Putra Malaysia Student Branch

Lim Qi Yang, Chair for IEEE Universiti Putra Malaysia Student Branch

IEEE Universiti Putra Malaysia (UPM) Student Branch was established in 2001 under the Malaysia Section. As of February 2021, the Student Branch has 14 Graduate Student Members and 28 Student Members, which totals up to 42 student members. The retention rate over the years has averaged 30% with an influx of new IEEE student members signing up annually and participation of not only from the program of Electrical and Electronic Engineering but also from students of Chemical Engineering and Computer and Communication Systems Engineering.

KNOW YOUR R10 ORGANIZATIONAL UNITS

One key area of focus of the SB has been to inspire leadership and build teamwork skills among student members. As students are a vital component of the branch's future, substantial efforts have been made to provide leadership training, encourage critical thinking and problem solving, build a sense of community, and instill values of giving back in the form of organizing useful and engaging activities to benefit all students of Universiti Putra Malaysia. These efforts have resulted in effective and active SB committees with activities such as the Summer Break e-Mobility which serves as a virtual platform for exchanging students to experience Malaysian culture, at the same time an industrial exposure to local students excited to learn about their future careers.

A second focus area has been membership value. The committee has been working hard to provide local value, especially to students by organizing various technical workshops and seminars to prepare them for a professional career. Technical activities include a Custom IC Design workshop, and introductory webinars of Java, MATLAB, and Verilog HDL. Resume writing and internship sharing sessions were also held to assist students to envision their future. Despite the pandemic and movement restriction order placed upon Malaysia in March 2020 for nearly two years, the committee had been fast adapting to an abruptly changing environment and still managed to conduct various activities without compromising the quality.

The third area of focus has been on improving communications. The SB has been engaging with social media platforms such as YouTube, Facebook, and Linkedin as an official outlet of information whilst maintaining WhatsApp groups among the committees to facilitate teamwork and planning activities.

The UPM Student Branch has won several awards and accolades. Some of its recent achievements include:
* 2020 IEEE Regional Exemplary Student Branch Award
* 2016 IEEE Regional Exemplary Student Branch Award
* 2016 IEEE Outstanding Branch Counselor and Advisor Award – Assoc. Prof. Dr. Noor Ain Kamsani
* 2016 IEEE 2nd Outstanding Student Volunteer Award – Fatimah Abd Rahman
* 2016 IEEE 2nd Outstanding Student Volunteer Award – Gorakanage Ashen Indimal Gomes

4. TECHNICAL COLUMN

Challenges in Sensor

Kukjin Chun, IEEE Life Fellow, Professor Emeritus, Seoul National University

A sensor is a device, module, machine, or subsystem that detects events or changes in its environment and relays the information to other electronics, most commonly a computer processor. It is also called detectors or transducers.

Detection methods include electrical, biological, chemical, mechanical, optical, and thermal. Another classification is based on conversion phenomena between input and output: Thermoelectric, Photoelectric, Electrochemical, Electromagnetic, Thermo-optic. The sensor can also be classified according to the detection target, the material of the sensor, function, and usage: magnetic sensors, chemical sensors, infrared sensors, gas sensors, geo sensors, touch sensing devices, atmosphere sensors, liquid sensors, acoustic sensors, temperature sensors, radiation sensor, proximity sensors, pressure sensors, position sensors, particle sensors, motion sensors, metal sensors, level sensors, leak sensors, humidity sensors, force sensors, flow sensors, flaw sensors, flame sensors, biological sensors, medical sensing devices, vision and imaging sensors, clothes-based sensors.

Particle sensors are common in bin and baghouse monitoring. Key specifications include transducer type, minimum detectable particle size, operating temperature range, sample volume, and response time. Sensitivity, selectivity, and stability are increasingly important among key sensor performance characteristics. Sensitivity refers to how much the sensor output changes when the measured target changes, and this is an important factor in determining measurement precision and accuracy. The output of the sensor is changed not only by the measurement target but also by other factors. Selectivity refers to the degree to which the sensor responds more sensitively to the measurement target than other factors. Stability can have a very wide range of meanings, but here we will focus on stability over time. When the measurement target or other factors are constant, the output of the sensor must be constant. However, there is a case where the output changes slightly with time, which is called a drift phenomenon.

 A microelectromechanical system type sensor called MEMS is attracting a lot of attention. It is also called MicroMachine or MST (Micro System Technology). In the 1970s, it was already attempted to make a silicon-based sensor, and in

the 1980s, simple mechanical parts using the semiconductor manufacturing process began to be manufactured. In the 1990s, sensors and actuators made with MEMS technology began to be installed in automobiles and the devices necessary for RF and optical communications were made in this way, and from the 2000s, the application fields are expanding to devices that enter biological and medical equipment. The most popular MEMS that can be seen around is the head of an inkjet printer, but there are also microphones for smartphones, collision detection sensors for car airbags, and acceleration sensors and gyro sensors that are recently applied to smartphones.

MEMS technology uses semiconductor technology such as thin and thick layer deposition, patterning through photolithography, and etching process to produce necessary shapes. MEMS is made of various materials such as silicon, polymer, metal, and ceramic depending on the purpose or function to be implemented, and the MEMS made in this way is performing new functions and roles by providing a machine-like actuation method at the micrometer level.

Two technologies play a major role in realizing 3D structures in MEMS technology: DRIE and WLVP. Deep reactive-ion etching (DRIE) is a highly anisotropic etch process used to create steep-sided holes and trenches in wafers/substrates, typically with high aspect ratios and also used to excavate trenches for high-density capacitors for DRAM and more recently for creating through-silicon vias (TSVs) in advanced 3D wafer-level packaging. The wafer-level vacuum packaging (WLVP) technology attaches multiple wafers in a vacuum without using adhesive. Smart sensors were realized by connecting discrete MEMS chips to IC chips through the package but WLVP enables direct interconnection between CMOS IC and sensor elements. The figures below represent the gear system made by MEMS technology(left) and an SEM image of the micrometer scale deep trench from DRIE technology(right).
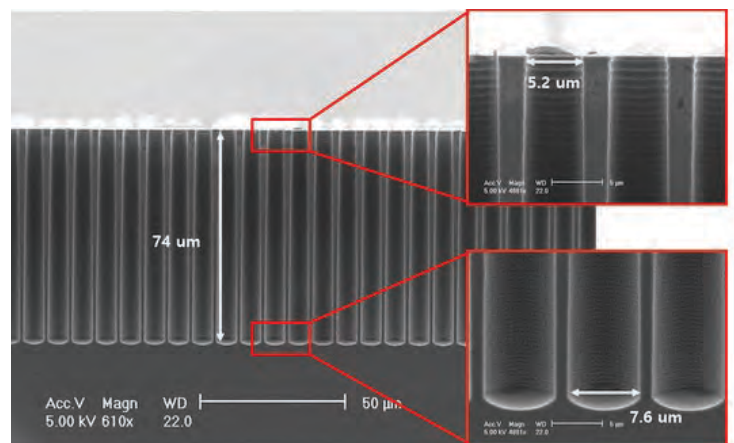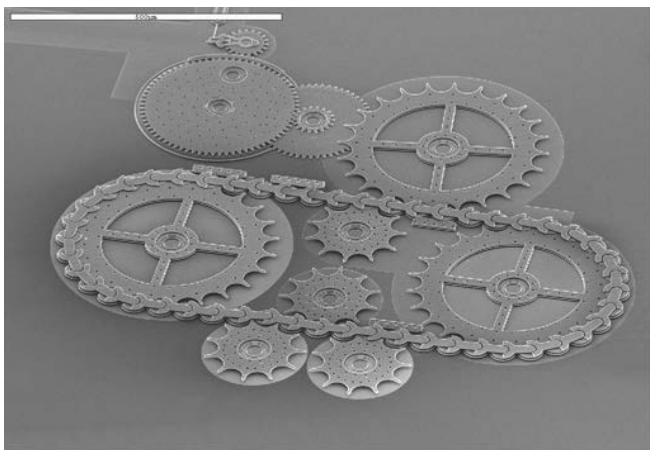
For MEMS applications, the sensors used in automobiles will check the function of the vehicle and detect as well as respond to change the conditions inside and outside of the car so that travelers in the vehicle can move with comfort, efficiency, and safety. The sensors employed in the car is airbag sensor, mass airflow sensor, engine speed sensor, oxygen sensor, spark knock sensor, coolant sensor, manifold absolute pressure (MAF) sensor, fuel temperature sensor, voltage sensor, camshaft position sensor, throttle position sensor, vehicle speed sensor, cameras, radar, MEMS gyroscopes, microphones, proximity sensor, fingerprint sensor and tire pressure monitoring sensor(TPMS).

However, the most important sector will be autonomous driving. Advanced Driver Assistance Systems(ADAS) provides an excellent answer to problems such as long-term driving, and transportation at night. LiDAR, radar, and camera detect the surroundings of the autonomous vehicle, and the driver now does not even have to drive while considering the external and internal circumstances. The vehicle control system automatically controls acceleration/deceleration, braking, and steering angles through the sensor data.

Many sensors are also used in autonomous robots including light sensor, proximity sensor, distance sensor, sound sensor, temperature sensor, contact sensor, pressure sensor, tilt sensor, navigation/ positioning sensor, accelerometer, gyroscope, inertial measurement unit. In today's fast-growing drone market, sensor technologies that power today's drones are accelerometer, inertial measurement unit, tilt sensor, current sensor, magnetic sensor, engine intake flow sensor, stereo camera, and laser range sensor.

Cellphones also employees different types of sensors and actuators and they are pressure sensors, MEMS accelerometers, MEMS gyroscopes, electronic compass, inertial measurement units, BAW filters, duplexers, MEMS switches, variable capacitors, silicon MEMS oscillators, silicon microphone, optical MEMS for display, CMOS image sensor, and MEMS autofocus. Emerging sensors for mobile phones are ambient light sensor, proximity sensor, energy harvesting, micro fuel cell, micro-speaker, fingerprint sensor, RFID, temperature sensor, humidity sensor, and gas sensor.

Internet of Things (IoT) is a network of "intelligent" devices with embedded electronics, sensors, and network connectivity that can acquire and exchange data. IoT concepts and technologies have been implemented extensively in automobiles and have been used to create smart lighting in homes and streets and network water, power, temperature control, and alarm systems in cities. IoT applications use large arrays of sensors collecting data for transmission over the Internet to a central, cloud-based computing resource. Analytics software running on the cloud computers reduces the huge volumes of generated data into actionable information for users and commands to actuators back out in the field.

It will become evident that sensor intelligence, apart from facilitating IoT connectivity, also creates many more benefits related to predictive maintenance, more flexible manufacturing, and improved productivity with low cost, small size, wireless, self-identification and self-validation, very low power, robust, self-diagnostic, self-healing, self-calibrating, and data pre-processing.
 The advent of smart-watches and wristbands now allows activities throughout the day to be monitored without creating discomfort for the person, wearable sensing capabilities have been spreading to smart textiles, clothes with embedded electronics, and smart spectacles, increasing the number of parameters that can be monitored, from which patterns and trends can be extracted, to which personalized conditioning or care strategies can be optimized. The sensed data needs to be analyzed and transformed to provide the final feedback to the end-user in real-time, using artificial intelligence, deep learning, or other techniques to manage "big data".

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- Robot Platform | Knowledge | Types of Robot Sensors

TECHNICAL COLUMN

- How Many Sensors are in a Drone, And What do They Do? | Fierce Electronics
- Types of Actuators | Linear, Electric, Magnetic, Pneumatic, Rotary, Hydraulic - Creative Motion Control
- MEMS & Sensors for Smartphones (sensorsportal.com)
- https://reader.elsevier.com/reader/sd/pii/S2666351121000425?token=F03E36986C2053B7213EEC75BF305F324F98AD06673CF123ED7E3440F2DF5D68A94D92136F165ACEEFE1BDC076527D74&originRegion=us-east-1&originCreation=20220111041441
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Kukjin Chun is now a Professor Emeritus at Seoul National University in Korea. He served as the Vice-President of IEEE and IEEE Region10 Director. He also served as a General Chair of the 2015 IEEE SENSORS Conference and a member of the International Steering Committee of the IEEE International Conference on Solid-State Sensors, Actuators, and Microsystems. He is a Life Fellow of IEEE and he received the Order of Science and Technology Merit of Korea in 2017. His research interest is in MEMS and has worked on tactile imagers, distance sensors, physical sensors, micro E-beam modules, RF-MEMS devices as well as Bio-MEMS devices. As the principal investigator of the national R&D project of the Korean government, he developed multi-mode, multi-band transceiver systems for mobile WLAN and LTE platforms. He has also established an extensive public infrastructure for MEMS/sensor fabrication at Seoul National University which has been used 8000 times per year since 2000.

5. SECTION/ SUBSECTION/ COUNCIL ACTIVITIES

IEEE Hyderabad Section

IEEE GRSS Summer School 2021

Sree Lakshmi Gundebommu, Chief Editor for IEEE Hyderabad Section

The IEEE Geoscience and Remote Sensing Society Hyderabad Chapter in collaboration with Muffakham Jah College of Engineering & Technology and Geethanjali College of Engineering and Technology, Hyderabad has organized 3-day GRSS Summer School on "Artificial Intelligence in Remote Sensing Applications" from 21st to 23rd October 2021. The inauguration was held in hybrid mode and Mr. Deepak Mathur, Director for IEEE Region 10 was invited to be the Chief Guest of the function with a limited audience of 70 participants. The entire event was conducted through online mode and more than 1200 participants across the globe registered for the school. Internationally, participants from countries like Malaysia, Australia, Mexico, Germany, Nigeria, Italy, Spain, and Turkey, to name a few. From India, participants came from many reputed universities and renowned industries like IIT Kanpur, IIT Roorkee, ISI Kolkata, ISRO, and Samsung.

The recent spurt in the adoption of artificial intelligence-based techniques by industry giants for commercial use has created a demand to reskill young professionals. Also, many startups that provide AI-based solutions to customers have sprung up and are on the lookout for graduate students who have prior exposure and working knowledge in AI in remote sensing applications. This in turn has led to a requirement to provide additional skills to new job aspirants. This summer school attempts to fulfill the above requirements through a balanced program incorporating theory, implementation, and applications of remote sensing.

This event comprised of six lecture sessions and three hands-on cum tutorials sessions, all covering a range of topics and areas of interest related to remote sensing applications, crop classification, QGIS, and Google Earth implementation techniques. The program was widely covered by the press in various local newspapers and dynamic media e.g. Sakshi, Times of India, Namaste Telangana, Andhra Jyothi, Eenadu, etc.

Section Student Congress (SSC-2021)
Sree Lakshmi Gundebommu, Chief Editor for IEEE Hyderabad Section

Student Section Congress 2021, an annual flagship congress of IEEE Hyderabad Section under the theme of Unite & Celebrate was held on 4th December 2021 at The Plaza Hotel, Begumpet, Hyderabad with 100 physical participants and over 1000 virtual participants.

The day began brightly with the lightening of lamps by the IEEE IC SAC Chair, Dr. Y Vijayalata, the IEEE Hyderabad Section Chair, Mr. Sreenivas Jasti, the Section Secretary, and Dr. Arif Sohel, and a classical dance performance by Ms. Varshaswi B, a Student Network Representative from Stanley College of Engineering for Women. The IEEE Hyderabad Section SAC Chair, Mr. Vidyasagar T, delivered the welcoming remarks, which were followed by a photo session and a break. Later, an intriguing session was delivered by the Section Secretary, Dr. Arif Sohel, on the theme, "Skill Connect-an Overview," which was primarily focused on bridging the gap and meeting industrial needs by collaborating with colleges and conducting programs in several stages for skill enhancement amongst students.

IEEE Sensors Council Hyderabad Chapter Events 2021
Sangeeta Singh, Secretary for IEEE Hyderabad Sensors Council Chapter

A five-day event titled "Women in Sensors Bootcamp" was organized by IEEE Sensors Council Hyderabad Chapter from 20th to 24th September 2021. The objective of the event was to promote and support women in sensors, encourage the young generation of female researchers to work on sensors, discuss the opportunities in capabilities and emerging applications of sensors, along with research collaboration to support the ongoing global pandemic. The event included a panel discussion, expert talks, and a research colloquium. The panelists and speakers were:

- Prof. Enakshi Bhattacharya, IIT Madras
- Prof. Maryam Shojaei, IIT-Bombay, Mumbai
- Ms. Sukriti Jalali, TCS, Mumbai
- Prof. Gaurav Sharma, University of Rochester
- Ms. Saritha Gadde, TCS, Hyderabad
- Ms. Soma Bandyopadhyay, TCS, Kolkata
- Mr. Bala Peddigari, Treasurer, IEEE Hyderabad Section

A two-day "Sensors Council Workshop" under the theme "The Role of Sensors in Industrial Automation" was organized by the IEEE Sensors Council Hyderabad Chapter from 20th to 21st October 2021. The chief guest for the event, Mr. Deepak Mathur, Director for IEEE Region 10 provided insights on various committees in Region10. He also presented the benefits of IEEE membership and how we can have a positive impact on society. The talks given by expert speakers concentrated on the role of sensors in automation at industries with real-time applications.

SECTION/ SUBSECTION/ COUNCIL ACTIVITIES

The speakers were:

- Dr. P A Manoharan, Director, Robota Technology Innovation Pvt. Ltd.
- Mr. Kishore Chandra Das, Scientist F, Head (HAISD), RCI, DRDO.
- Mr. N. Venkatesh, Senior Director, Engineering, Silicon Labs.
- Dr. J. Chattopadhyay, Outstanding Scientist and Director DRDO (Retd.), Hyderabad

A distinguished Lecture titled "Large Area Electronic Skin" was organized by IEEE Sensors Council Hyderabad Chapter on 27th November 2021. The speaker, Dr. Ravinder Dahiya, Professor of Electronics and Nanoscale Engineering, University of Glasgow, Scotland, explained the amazing possibilities of the emerging technology, with applications in wound healing, rehabilitation, healthcare, or even smart cities using allied technologies such as bionics, Internet of Things, and wearable systems.

IEEE Sensors Council Hyderabad Chapter also organized a two-day Winter School Program "Sensors for Medical Applications and Healthcare" from 20th to 21st December 2021 in hybrid mode. The winter school presented the pivotal role that smart sensors can play in the improvement of healthcare for students and professionals from institutions and industries. This winter school focused on the recent advancements in both wearable and implantable technologies, challenges, and future research areas concerning the utilization of wireless sensors in healthcare applications. The speakers were:

- Sachin Kumar Srivastava, IIT-Roorkee
- Dr. V V Raghavendra Sai, IIT Madras, Chennai.
- Dr. Mahesh Kumar, Indian Institute of Technology, Jodhpur.
- Dr. Suveen Kumar, University of Delhi, Delhi, India.
- Dr. P. N. Suganthan, School of Electrical & Electronic Engineering, Nanyang Technological University, Singapore.
- Dr. Takako Hashimoto, Vice President & Professor, Chiba University of Commerce, Chiba, JAPAN
- Dr. Stefan Mozar, President, IEEE Product Safety Engineering Society, CEO, Dynexsys Pty Ltd, Australia
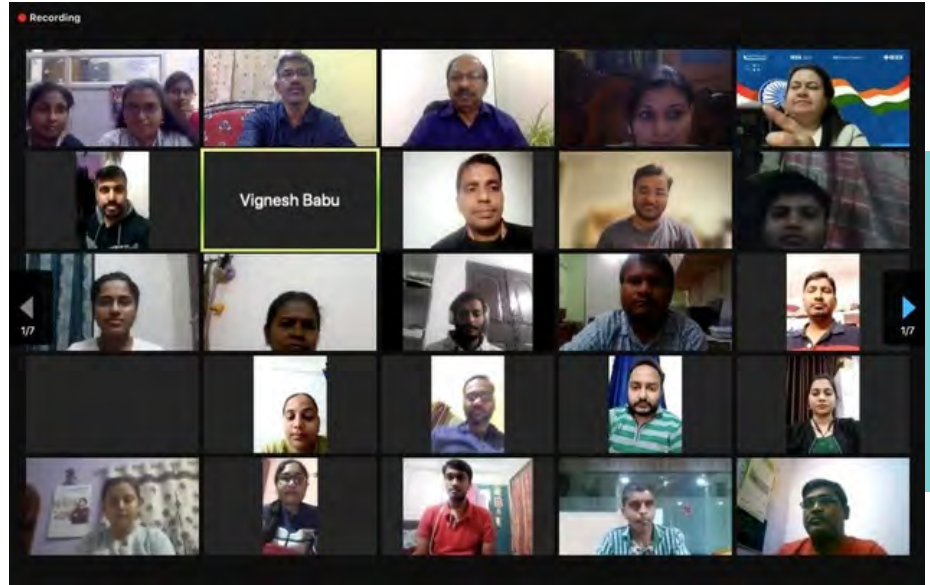- Dr. Gwo Giun (Chris) Lee, National Cheng Kung University, Taiwan.

IEEE India Council

Workshop on "Deep Learning Networks for Image Processing"
Devaraj D, Vice Chair for India Council Educational Activities

IEEE India Council conducted the online workshop on "Deep learning networks on image processing" during 22nd – 23rd December 2021 through online mode. In the two-day event, 285 students from various institutions participated. The program started with a welcome address by Dr. D. Devaraj, Vice Chair for Educational Activities, IEEE India Council. He highlighted the initiatives taken by the IEEE India Council to reach out to members from various parts of the country. He also outlined the topics to be discussed in the workshop.

The workshop focused on the fundamentals of Artificial Neural Networks (ANN), ANN implementation using MATLAB, Convolution Neural Networks (CNN) for image processing, and Advanced Deep Learning Networks. The resource persons of the workshop are Dr. D. Jude Hemanth (Karunya University, Coimbatore, India), Dr. D.Devaraj (Kalasalingam Academy of Research and Education, Krishnankoil, India), Dr. J Sheeba Rani (Indian Institute of Space Technology, Trivandrum), Dr. Josephine Selle J (Kalasalingam Academy of Research and Education) and Mr. Moinak Bhattacharya (Stony Brook University, New York). The valedictory ceremony was conducted afterward. Dr. Suresh Nair, Chairman for IEEE IC was the chief guest of the valedictory program. Dr. Suresh Nair appreciated the efforts of the IEEE IC EA team in organizing this event and he encouraged the participants to apply the tools they have learned for real-world problems. He congratulated the winners of the quiz and issued the certificates to them. Dr. Prerna Gaur, Treasurer for IEEE IC, felicitated the function. During the feedback session, the participants told that they have learned the concept of artificial neural networks and deep learning networks through this workshop. Dr. D.Devaraj proposed the vote of thanks in which all the organizing team members, resource persons, participants, and volunteers were thanked for their effort and time in making this event a grand success. The session ended with a photo session.

IEEE Islamabad Section

Islamabad Section Educational Activities

Nosherwan Shoaib, Chair for IEEE Islamabad Section Educational Activities

Event 01: "Fostering Youth with STEM"
On 25th September 2021, IEEE Islamabad Section SAC and IEEE Islamabad Section Educational Activity Committee conducted the "Fostering Youth with STEM" event in association with IEEE

R10 Educational Activities Committee. It involved an in-person session with pre-university students which focused on enhancing and promoting engineering skills in them. The event was hosted by a local school namely "The Fortune Lyceum Pakistan" with the motive to acquaint students with the technical stream of studies that involved hands-on activity and teamwork. The activity included theoretical demonstrations of electrical circuits and components followed by a practical demo of a simple LED circuit.

The activity was performed in groups abiding by the SOPs and regulations. Various combinations of circuits were made, and a worksheet related to the activity was filled out by every student. The event was attended by 52 participants, thanks to the financial support of USD400 from IEEE Islamabad Section and R10 EAC. The event concluded with an award distribution ceremony, and a participation kit was distributed among students. In the end, a group photo was taken which included all participants, the school principal and staff, the SAC Chair and team, and Dr. Nosherwan Shoaib, Chair of the Educational Activities Committee, who was invited as Chief Guest for the event. It was an excellent opportunity for everyone to exhibit the skills learned during the session and build a healthy interaction with each other.

Event 02: "Road to Success"
On 18th September 2021, IEEE Islamabad Section Educational Activities Committee and SAC conducted a "Road to Success" event in association with IEEE R10 Educational Activities Committee. It involved an in-person session with faculty members which focused on enhancing and promoting engineering and soft skills in them. The event was hosted by a local school namely "The Fortune Lyceum Pakistan" with the motive to acquaint teachers with the technical stream of studies that involved hands-on activity and teamwork. The activity included theoretical demonstrations of STEM education.

The activity was performed in groups abiding by the SOPs and regulations. The event was attended by 40 participants, thanks to the financial support of USD350 from the IEEE Islamabad Section and R10 EAC. The event concluded with an award distribution ceremony, and a participation kit was distributed among teachers. In the end, a group photo was taken which included all participants, the school principal and staff, the SAC Chair and team, and Dr. Nosherwan Shoaib, Chair of the Educational Activities Committee, who was invited as Chief Guest for the event. It was an excellent opportunity for everyone to exhibit the skills learned during the session and build a healthy interaction with each other.

IEEE Karachi Section

Hands-on Workshop on Line Follower Robot
Abi Waqas, Chair for IEEE Karachi Section IES Chapter

IEEE Karachi Section organized an exclusive hands-on workshop on Line Follower Robot (LFR) on 7th February 2022. Sixteen teams comprising of 100 students from different departments and universities took part in the workshop. The event had an inspiring speaker, Zeeshan Sarwar as Director of Techtrotics Technologies Lab and a world record holder for the longest line follower robot track, according to the Guinness Book of World Records. The speaker discussed robotics and its application. Every team assembled Line Follower Robot and programmed it and tested their

LFR on track. This session was exclusively prepared to give a platform for our young and female engineers to experience and strengthen their talents and engage with our experienced speaker. With great efforts and management, Abi Waqas, Chair for Karachi Section IES Chapter, with his team organized and supervised this workshop. The workshop would not have been a success without the support of the IEEE IES Society.
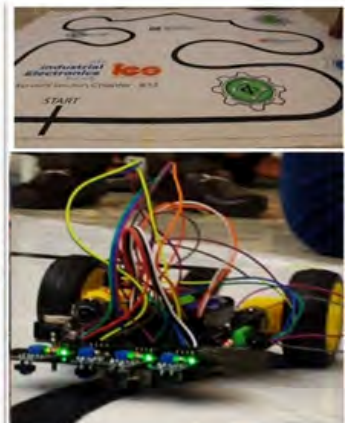
IEEE Kerala Section

Activities of IEEE PES Kerala Chapter
Alina Thanangadan, Global Publicity Outreach Coordinator for IEEE Kerala PES Chapter

All Kerala Power and Energy Society Student Congress 2021 (AKPESSC'21)
IEEE PES Kerala Chapter in association with IEEE Vimal Jyothi Engineering College PES Student Chapter, Kannur, hosted its flagship event - All Kerala Power and Energy Society Student Congress 2021 (AKPESSC'21) from 31st December 2021 to 2nd January 2022 at Vimal Jyothi Engineering College. This year's theme was 'Green Resolution'. AKPESSC'21 consisted of three

parallel technical workshops and two industrial visits. It also included a field visit to Palakkayam Thattu, a technical talk on Demystifying Nuclear Energy, an interactive YP Talk on Professional Communication, and other interactive sessions. A total of 120 students participated.

IEEE PES Kerala Chapter Annual General Meet
IEEE PES Kerala Chapter organized its Annual General Meet on 29th January 2022 from 9 AM to 1 PM via Webex. The event was graced by the presence of professional members, YP members, student volunteers from Student Chapters, and their chapter advisors. The meeting ended with the announcement of the new ExeCom who vowed to bring in new initiatives.

IEEE Madras Section

Student Office Bearers Meet

Kumarappan N, Chair for IEEE Madras Section

IEEE Madras Section Student Office Bearers Meet
The IEEE Madras Section Office Bearers Meet took place at Hotel Le Royal Meridien on 12th December 2021 with 65 participants. The meeting commenced at 10 AM with the inaugural ceremony. Mr. Ashvanth welcomed the chief guest, Mr. Sarath Chandar, General Manager of Vaken Technologies. Dr. N. Kumarappan briefed about the awards and opportunities available in IEEE for Student Branches. Dr. S. Joseph Gladwin presented a talk on Student Branch funding opportunities from IEEE Madras Section and other IEEE sources. Mr. Arun pointed out some significant guidelines for error-free newsletter reporting. Mr. Aravindhan Anbazhagan presented a session on Creating an Action Plan for Student Branches. Finally, Mr. Ashvanth talked about *Effective Tools for Student Branch Volunteers*. Later, office bearers of different Student Branch Chapters are grouped for IEEE Themed Connection Quiz Event. All the participants were given IEEE goodies as a token of gratitude.

IEEE Madras Section Annual General Meet
IEEE Madras Section organized its Annual General Meeting on 12th December 2021, from 12.30 to 5 PM. IEEE Madras Section Chair Dr. N. Kumarappan, IEEE Madras Section Vice-Chairman Dr. R. Hariprakash, IEEE Madras Section Secretary Dr. D Devaraj, IEEE Madras Section Treasurer Dr. S Joseph Gladwin, and Mr. Rangarajan took on the podium.

Dr. N. Kumarappan welcomed everyone, flipped through the agenda of the AGM, and went over the activities and events conducted in 2021. Student branch counselors networked together, and Dr. N. Kumarappan granted the rebate amount. Dr. Joseph Gladwin then gave a detailed account of the expenditures and activities. Dr. N. Kumarappan presented awards under various categories as the new initiative: *BEST STUDENT VOLUNTEER, BEST STUDENT BRANCH, BEST WIE VOLUNTEER, BEST YOUNG PROFESSIONAL VOLUNTEER, LIFETIME ACHIEVEMENT AWARD and BEST RESEARCH PAPER AWARD* under three different age categories (under 40, between 40 to 50 and above 50).
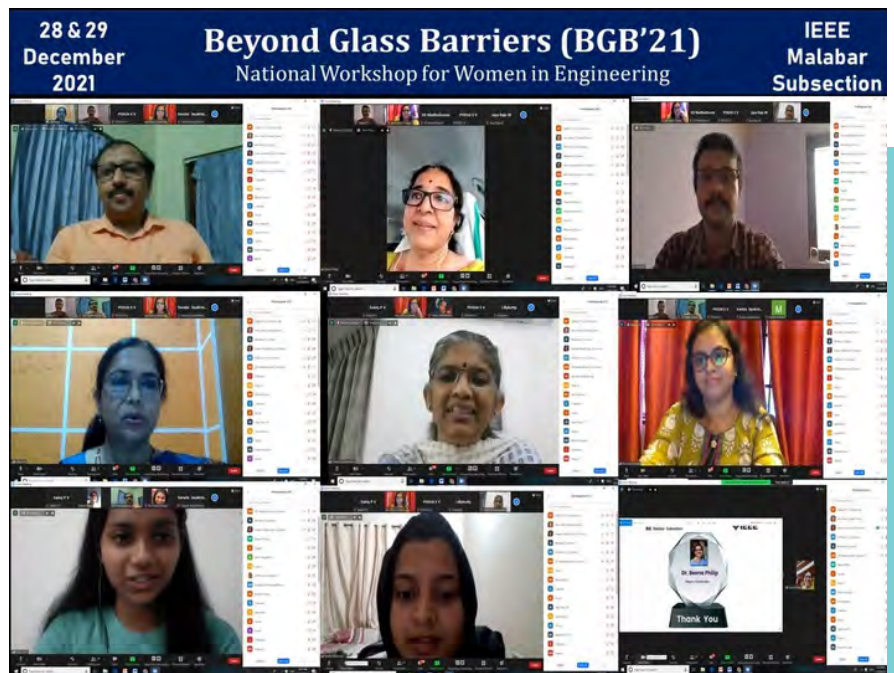
IEEE Malabar Subsection

Beyond Glass Barriers

Sabiq P V, Chair for IEEE Malabar Section

IEEE Malabar Subsection, IEEE Women in Engineering along with NIT Calicut, organized a two-day online national workshop for women in engineering, entitled "Beyond Glass Barriers – 2021 (BGB 2021)" from 28th to 29th December 2021. The aim of this workshop is to inspire, empower and lead budding women in the area of Engineering and Technology. Eminent women personalities from engineering, academia, and industry deliver sessions on various topics that include professional leadership, personal branding, and entrepreneurship. The First edition

of this flagship event was organized in offline mode at the National Institute of Technology, Calicut in 2019. The second and third edition of this flagship event was organized in online mode due to the pandemic situation.

"Beyond Glass Barriers" is an inspiration, to move beyond the hindrances in a woman professional's or woman student's life that prevent her from realizing her true potential and contributing to the best of her abilities and talents for the benefit of families, communities, and countries. When women are living safe, fulfilled, and productive lives, they can reach their full potential, contributing their skills to the workforce. In the span of three years, BGB is unwavering on its mission to set a platform to bring together women leaders in academia, research, administration, and industry and to give an insight into personal branding, entrepreneurship, and startups for women through better professional networking.

Honorable Mayor of Calicut, Dr. Beena Philip, inaugurated the third edition of Beyond Glass Barriers 2021 and declared the IEEE MSS-ROSE (Recognition for Outstanding Services in Engineering) award constituted by Malabar Subsection to honor women who have made outstanding contributions in engineering. The first edition of the ROSE Award was bestowed upon Dr. Lillykutty Jacob, Former Professor, NIT Calicut, and an active IEEE volunteer. Ms. Sarada Jayakrishnan, DGM of Terumo Penpol Pvt Limited & Chair for IEEE Kerala Section delivered a talk on the topic "How professional activities and engagements have helped you for career excellence". The second day started with a paper presentation by registered participants in two tracks; professional and student. This was followed by a panel discussion on the theme "Challenges and survival techniques during COVID and what beyond COVID". Dr. Maria Francis, Assistant Professor at IIT Hyderbad, Ms. Aisha Nazia, Project and Sports Management Professional, Ms. Aswathi Dinil, Tedex Speaker, and Ms. Asha Chacko George, Relationship Manager at TCS were the panelist. The event was a grand success with over 100 participants attending the workshop.

6. AFFINITY GROUPS (WIE/YP/LMAG/CNAG) ACTIVITIES

IEEE Kansai Section LMAG

LMAG Kansai Held the Lecture and Social Meeting Online
Toru Chiba, Vice-Chair for IEEE Kansai Section LMAG

On 25th February 2022, IEEE LMAG Kansai held the first lecture and social gathering online with 31 participants, including members from the Sapporo, Sendai, Tokyo, and Nagoya Sections. The lecture was titled "Cybersecurity－Security behind the Evolution of Cyber Technologies" delivered by Mr. Mitsuo Kojima, the CEO of imatrix holdings corporation, and Mr. Hibiki Oka, a Senior Researcher at imatrix research laboratory corporation.

The speakers talked about the history, present situation, and the future of cyber security - very timely topics under the current situation caused by the COVID19 pandemic for all Internet users, including governments, corporations, and consumers. All the 31 number of participants got interested in the topics, and fruitful discussions about future technologies continued until the time limit. LMAG Kansai plans to hold this kind of lecture and social gathering online throughout the year.

IEEE Sapporo Section LMAG

Sapporo LMAG Establishment Event
Yasutaka Ogawa, Secretary for IEEE Sapporo Section LMAG

IEEE Sapporo Section Life Members Affinity Group (Sapporo LMAG) was established on 7th June 2021. This is the fifth LMAG in Japan. The Sapporo LMAG Establishment Event, including the inauguration ceremony, general assembly, and commemorative lectures, was held at the Faculty of Information Science and Technology Building, Hokkaido University in person and online on 31st October 2021. The number of participants was 63 including online participants. Details of the commemorative lectures are as follows:
 • Dr. T. Yamamoto, Professor Emeritus of Hokkaido University, "Cyber-physical System in Practice – My Hands-on Experience of IoT and DX –"

- Dr. T. Fukuda, Professor Emeritus of Nagoya University and IEEE Past President, "LMAG: Create Society of Dynamic Engagement and Activities by Life Members"
- M. Koshiba, Professor Emeritus of Hokkaido University, "Next-Generation Photonic Network Technologies: Expectations for Space-Division Multiplexing".
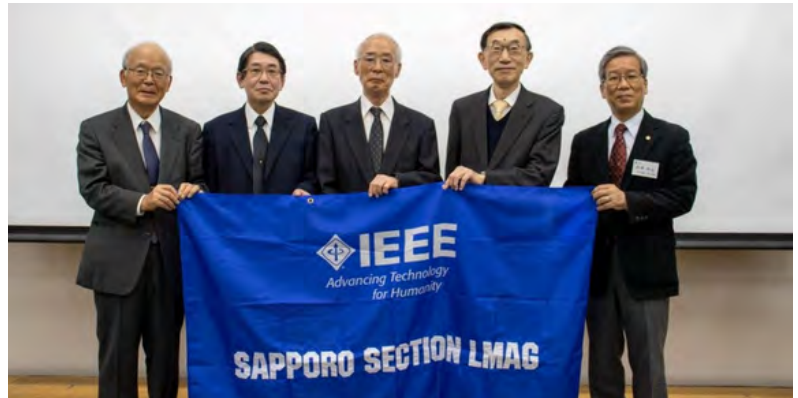
IEEE Tokyo Section LMAG

LMAG-Tokyo Celebrates the Achievement Award

Naohisa Ohta, Vice-Chair for IEEE Tokyo Section LMAG

IEEE LMAG Tokyo won the 2021 IEEE Life Members Affinity Group Achievement Award. It was given to the Affinity Group which performed the best activity in 2020 among all LMAGs of IEEE. The award ceremony was held on 10th December 2021, at Kikai-Shinko-Kaikan in Tokyo, in hybrid mode. There were 25 participants at the venue and 20 online. Yoshiaki Nakano, Chair for IEEE Tokyo Section delivered an opening remark, and Scott Atkinson, Chair for IEEE LMC introduced the award online. Toshio Fukuda, Past President of IEEE, presented a plaque to Hajime Imai,

Chair for IEEE LMAG Tokyo, and delivered a congratulatory speech. Deepak Mathur, R10 Director, and Rajendra Asthana, R10 LMC Chair, also congratulated LMAG Tokyo as online guests. After the ceremony, the award celebration party was held at a different location. The encouraging congratulatory messages from the attendees and the photos of LMAG Tokyo activities projected on the screen made it a pleasant and memorial event.

IEEE Islamabad Section WIE AG

**A Small Step Towards Humanitarian and Professional Awareness**

Sameen Khan, Chair for IEEE Riphah University FC WIE AG

Breast Cancer Awareness Program (14 Participants)
Following the rapid increase in breast cancer patients in Pakistan, Ms. Warda Malik, the advisor of IEEE Riphah FC WIE AG took an initiative, and she along with her team coordinated with a well-known martial arts academy in Pakistan, "Taurus Martial Arts and Fitness Academy", and organized a webinar on "Breast Cancer Awareness" on 27th October 2021. The event intended to take a step forward towards carrying out an awareness related to breast cancer and its effect.

AFFINITY GROUP ACTIVITIES

Professional CV Writing (31 Participants)

On 3rd November 2021, IEEE Riphah University FC WIE AG collaborated with its Student Branch and CIS Chapter and arranged a physical event on "Professional CV Writing". In this session, the key tools, tips, and concepts that could prove helpful while writing a professional CV were highlighted by Engr. Muzamil Mahmood, Chair for Student Activities Committee and Branch Advisor for IEEE Riphah University FC.
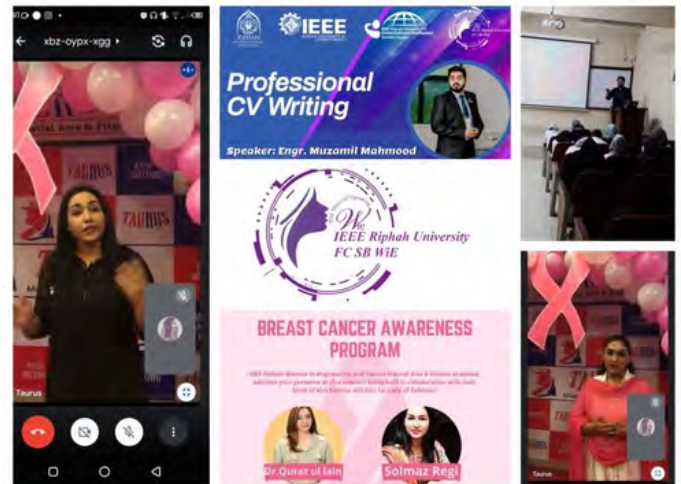
7. STUDENT BRANCH ACTIVITIES

IEEE University of Asia Pacific Student Branch [Bangladesh Section]

Introduction to IEEE & Workshop on 'Basics of Graphic Designing using Adobe Illustrator'

Rose Mary Gomes, Leader for IEEE University of Asia Pacific Student Branch Documentation Team

IEEE UAP Student Branch organized an inaugural webinar titled "Introduction to IEEE" on 29th January 2022. 50 participants, mostly freshers, were presented with the preliminary concepts of IEEE, as well as information about membership, benefits of joining IEEE, and the recent events organized by the IEEE UAP Student Branch. The successful event was conducted by two former Ex-Com members in leadership roles, Mohammad Ibrahim and Nusrat Jahan Seddika. Both speakers advised and encouraged students to become active members to attain the extensive advantages of IEEE.

On 19th February 2022, IEEE UAP Student Branch arranged a virtual workshop on "Basics of Graphic Designing using Adobe Illustrator". The branch highly encourages active members to demonstrate their skills. The instructor chosen was Shahnewaz Jamil, leader of the Graphic Design Team. 35 enthusiastic participants received a comprehensive guideline for creating attractive posters and other visual presentations with Adobe Illustrator, along with important conventions and details.

IEEE Institut Teknologi Bandung Student Branch [Indonesia Section]

A Small Act to Unite IEEE Student Branches in the Asia Pacific
Larastya Devindira, Member for IEEE Institut Teknologi Bandung Student Branch

Emphasizing students' role in solving problems using innovation, IEEE ITB Student Branch has successfully organized the IEEE Asia-Pacific Student Convention (IAPSC) from 12th to 13th February 2022. With the purpose to enhance awareness and innovation to solve global problems through collaboration while also developing relations with other students in the Asia-Pacific region, IAPSC gathered over 60 students from over 5 countries to discuss and solve problems related to healthcare data management and renewable energy.

IAPSC was also equipped with 3 keynote sessions from Mirus Ponon (Founder and Chairperson, ASEAN Youth Advocates Network), Riza Azmi (Research and Development Manager at the Ministry of Communications and Information Technology, Indonesia), and Kuncoro Wastuwibowo (Synergy Project Leader, Telkom Indonesia). IEEE ITB Student Branch hopes this event establishment will achieve its long-term goal, which is accelerating our civilization for the better by creating awareness through student collaborations.

IEEE Mehran University of Engineering and Technology Student Branch [Karachi Section]

A Day with Children of SOS Village Jamshoro: A Loving Home for Every Child
Umair Ahmed Korai Baloch, Advisor for IEEE MUET Communication Society Student Chapter

The IEEE Mehran University of Engineering and Technology (MUET) Communication Society (ComSoc) Student Chapter, in collaboration with IEEE Karachi Section ComSoc Chapter, IEEE Karachi Section Industrial Electronic Society (IES) Chapter, and QS World Merit Pakistan, organized a Community Service (Social) event "A Day with Children of SOS Village Jamshoro: A Loving Home for Every Child" held on 5th

STUDENT BRANCH ACTIVITIES

February 2022 (Kashmir Day). The theme of the event was "Spreading Smiles with Children of SOS Village Jamshoro". The place has been operational since April 2012. This event was attended by 47 people, which included 39 IEEE members (including 21 IEEE ComSoc Members) and 8 non-IEEE members. The IEEE MUET ComSoc Student Branch team members donated gifts that costs Rs. 15,000 (PKR) to the children of SOS village. A couple of cakes were cut in the event to celebrate the birthday of one of the kids at SOS village.

IEEE SIGHT Karachi – Engineering for Global Development (EGD) Community Engagement Workshop

Umair Ahmed Korai Baloch, Advisor for IEEE MUET Communication Society Student Chapter

IEEE SIGHT Karachi Chapter in collaboration with IEEE Karachi Section Communication Society (ComSoc) Chapter, IEEE Mehran University of Engineering and Technology (MUET) ComSoc Student Chapter, Mehran University Institute of Science, Technology & Development (MUISTD), and QS World Merit organized a one-day workshop on "Engineering for Global Development (EGD) Community Engagement" at MUISTD Auditorium, MUET, Jamshoro, Pakistan on 13th January 2022. The total number of participants in this workshop was 67 of which 28 were IEEE members and 39 were non-IEEE members. The first session was delivered by Engr. Hanan Daudpota and Engr. Murtaza Hanif delivered a talk on IEEE SIGHT, its benefits, and guidelines for preparing a strong IEEE SIGHT Group petition. They encouraged the participants to establish an IEEE SIGHT Group at MUET. It was agreed that Dr. Umair Ahmed Korai, Assistant Professor, Department of Telecommunication Engineering, MUET Jamshoro will be the said Group's Advisor at MUET.

IEEE MUET Khairpur Student Branch [Karachi Section]

Young Leaders Summit

Shoaib Dayo, Chair for IEEE MUET RAS Student Chapter

The first event was held on 15th September 2021. Engr. Shoaib Dayo, founder Chair for IEEE MUET RAS Student Chapter, handed over the IEEE RAS kit which was received from IEEE HQ to the ExCom members in the office of the Chairman Department of Electronic Engineering. After handing over the kit, Engr. Shoaib Dayo guided them about the IEEE registration process, Vtools, IEEE activities and technical events.

STUDENT BRANCH ACTIVITIES

IEEE MUET Khairpur RAS Student Chapter collaborated with Rotaract Club of Khairpur in the Young Leaders Summit held in Naz Pilot High School Khairpur Mir's on 25th November 2021, in which various students from local schools participated in a speech competition and great personalities came to honor the event. There were 80 participants from different schools along with IEEE MUET RAS Team. The keynote speaker was delivered by Abdullan Janwari, Headmaster of the School.

IEEE IIT Kharagpur Student Branch [Kharagpur Section]

Recent Activities

Anjali Raj, IEEE IIT Kharagpur Computer Chapter
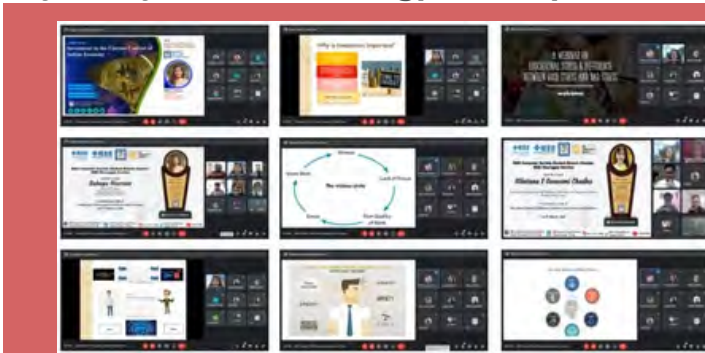
On 5th February 2022, a webinar was held to make the participants aware of the "Investment in the Current Context of the Indian Economy" that attracted 17 participants, including students from different backgrounds. Investing provides financial security in the now and the future by allowing one to grow money while outperforming inflation. The discussion covered a variety of topics related to the financial investment industry in today's Indian economy, as well as the concept of cryptocurrencies. Another webinar on "Educational Stress & the Difference between Good and Bad Stress" was held on 5th March 2022, and enlightened 26 attendees from different walks of life. In today's culture, stress appears to have become a household phrase. This talk explored the world of educational stress, as well as how stress may be beneficial at times and various stress management approaches. Both the webinars concluded with wonderful Q&A sessions.

8. AWARDS & FUNDING
IEEE MGA Outstanding Section and Friend of IEEE MGA

IEEE Member and Geographic Activities

CALL FOR NOMINATIONS

Outstanding Section
Large, Medium, and Small

CLICK HERE TO NOMINATE

NOMINATE BY 15 MAY 2022

Friend of IEEE MGA

CLICK HERE TO NOMINATE

Nominations for Friend of IEEE MGA may be submitted at any time in 2022

Learn more about the MGA Awards and Recognition Program
mga.ieee.org/awards/mga-awards-and-recognition-program

IEEE Educational Activities Board (EAB) Award

IEEE Educational Activities Board (EAB) Awards recognize and honor contributions to engineering and technical education. The Section Professional Development Award recognizes an IEEE Section for major contributions to the professional development of its members through the provision of outstanding products, services, and support in the areas of life-long learning, continuing education, and professional development. Self-nominations are allowed; nominators and endorsers* may (or may not) be affiliated with the nominated Section.
*Section officers are not eligible to be endorsers.

Nominations are being accepted until **2 May 2022**.
All nominations must be submitted through the online nomination portal, https://bit.ly/3tQb9r8

The EAB Awards embrace significant and broad achievements that advance the practice of engineering and of engineering education. All are encouraged to submit a nomination for a worthy individual.

For more information, please visit the EAB Awards Program https://www.ieee.org/content/ieee-org/en/education/awards/
If you have any questions, please email eab-awards@ieee.org

IEEE R10 MDC Funding PROJECT

IEEE R10 Humanitarian Sustainable Project and Volunteer Training Support Fund

IEEE R10 HAC TENHOPE 2022

IEEE R10 Special Industry Conclave

IEEE REGION 10 SPECIAL INDUSTRY CONCLAVE

Theme: Fostering Industry/Academia Networking under Vibrant Industry 4.0 Landscape

16th SEPTEMBER 2022

IEEE Region 10 Special Industry Conclave is conceptualized to offer a platform of collaboration and networking for Industry leaders, Research and Academic Professionals, Young Professionals, Practitioners and Women in Engineering. This initiative is aimed to foster skill development required for industries, sessions and internship on disruptive technologies, Industry-Academia collaborations.

PROGRAM OVERVIEW

INDUSTRY FORUMS

- Industry speakers share pain spots; Industry interaction with academia to innovate solutions
- Academia orientation on real world problems with research outcomes valued by industry.
- Product exhibition
- Students get awareness of real-world research topics and/or possible internship opportunities

IEEE R10 Life Member Photography Contest

IEEE R10 SAC Membership Development and Leadership Training Fund and Proposals Related to COVID19

IEEE R10 SAC Student Research Paper Contest

IEEE R10 SAC Undergraduate Project Video Contest

9. OTHER NEWS

IEEE Day Celebrations Across R10
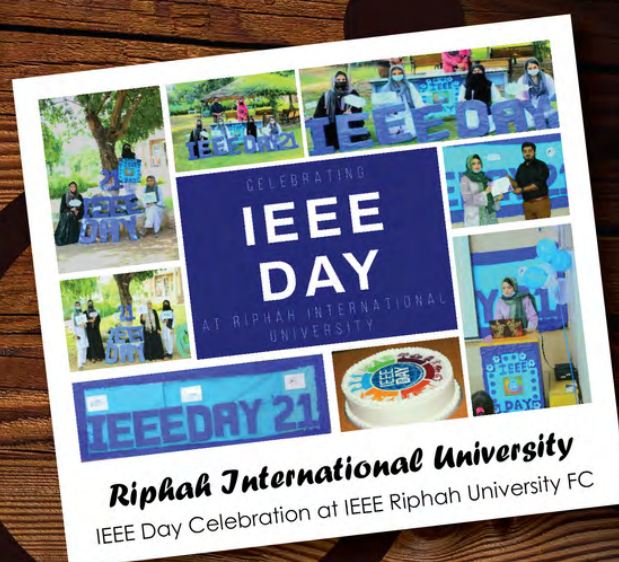
COVID-19 Heroes: Huesofthemind

Where we help you help yourself
Manasi Gupta, Volunteer for IEEE VIT Student Branch and SIGHT

The COVID-19 pandemic has brought many changes to the way we live our lives, and with it, at times, uncertainty, altered daily routines, financial pressures, and social isolation. We may worry about getting sick, how long the pandemic will last, whether our job will be affected and what the future will bring. Information overload, rumors, and misinformation can make our life feel out of control and make it unclear what to do. During the COVID-19 pandemic, many experience stress, anxiety, fear, sadness, and loneliness. And mental health disorders, including anxiety and depression, can worsen. Surveys show a major increase in the number of adults who report symptoms of stress, anxiety, depression, and insomnia during the pandemic, compared with surveys before the pandemic. Some people have increased their use of alcohol or drugs, thinking that can help them cope with their fears about the pandemic. In reality, using these substances can worsen anxiety and depression.

Huesofthemind is a societal initiative from IEEE volunteers that has provided mental health resources accessible, available and affordable to many during the COVID-19 pandemic. These online resources are complemented by HueShare, a network of mental health professionals pan India that provides subsidized mental health consultation and care. The e-resources include workshops and other technology interventions such as apps to facilitate the same in both English and vernacular languages. Huesofthemind is a non-profit organization run by progressive youth with Manasi Gupta, IEEE Student Branch (SB) & SIGHT volunteer as founder with the support of her fellow volunteers of IEEE SB and SIGHT at Vellore Institute of Technology (VIT), Vellore, India.

 "*I founded Huesofthemind to empower; to learn, cope, share and heal together. Over the years our vision has grown, and we strive to make mental health resources more accessible and affordable.*"
 -➔ Manasi Gupta, Founder

A home is a place where you allow yourself to feel most like you- a safe place, a place of no judgment, surrounded by people who comfort and support you in your life's pursuit of sunnier meadows. As college undergraduates and IEEE volunteers, we realized a massive taboo around mental health. We understood the concept of a 'safe space', where we are encouraged to have opinions and open discussions on topics that directly impact us. Seeking a safe space strengthens our mental health by letting us be vulnerable. By sharing our experiences, challenges, shortcomings, and more- we have the power to empower many more lives and not feel alone or unsupported in this journey.

 "*A reason why HOTM is a safe space is because of the openness of the people working in this organization.*"
➔ Sanjana Srinivasan, Research & Content Team member

In a world filled with judgment and negative stereotypes, having a home — physical or virtual — to open up and ask for help is critical for mental health. At Huesofthemind, we've always believed foremost in inculcating a Safe Space for our community. We call ourselves Team Sahaara

OTHER NEWS

Sahaara translates to support. Our team envisions supporting others and making a difference in their lives The objective is to try to stir more conversations related to mental health - spreading awareness and reducing the stigma around it. We aspire to create a space that encourages inclusivity through workshops and campaigns.

We launched our first (of several!) books, Hues of You, curated with nothing but love and the pure feeling of expressing ourselves in the most genuine manners possible. There's nothing more valuable for us than the immense and immeasurable support of our community for each initiative of ours!

 "When we had just started with Huesofthemind, we wanted to make a positive impact in the mental health space but had little idea how to do so. We faced tons of challenges but we persevered and that has what led HOTM where it is today :)"
➔ Rohit Chakraborty, Design Coach

We have had the absolute honor of harboring four wondrous initiatives successfully. The first initiative is HueShare, our support group facilitation service for our members to share their experiences or seek guidance from our team of experienced Mental Health Professionals Onboard Team Sahara. Our second initiative -Hues of You- this coffee-table book brings peace and soothes the soul with every turned page. Shortly after publishing it, our team came together to start HuesRadio, a podcast that discusses the various aspects of mental health, unpacking one concept and our experiences with it after the other with each progressing episode. A journey unforgettable, the release of the last episode of Season 1 of HuesRadio made the whole of Team Sahaara sparkle with the glow of accomplishment and pride. With the generous Indian festival of Diwali around the corner in October 2021, we launched HuesMerch - our merchandise in collaboration with talented small businesses! From planners and stickers to potted plants and crocheted plushies, we ensured that the gift-giving season was filled with joy, mental health awareness, and support for our fellow hard-working small businesses!

Among other accomplishments, our milestones have made us proudest! We are the youngest team to be awarded the National IHW Award by the Former Health Secretary of India in honor of our repository that helps individuals connect with mental health professionals in and around their city. With over 30 editions of our fortnightly newsletter, HuesLetter, we celebrated the art of having more open conversations with our families. Our workshops have impacted more than 10,000 people in India and beyond! We've accomplished a lot in a comparatively short period, which is our biggest and proudest achievement in itself. And we're more than determined to keep this achievement intact for every project to be taken up henceforth!

We are truly grateful to help you here, message us to connect with professional help and also to get access to helpful resources.
https://huesofthemind.live
https://instagram.com/huesofthemind

Check the COVID19 Heroes Video at: https://newsletter.ieeer10.org/home_jan2022/covid-19-videos/

OTHER NEWS

CONFLUENCE 2022

Abhay Bansal, General Chair for Confluence 2022

Amity School of Engineering and Technology (ASET) organized the 12th International Conference CONFLUENCE 2022, themed "Cloud Computing, Data Science, and Engineering" in a virtual mode amid COVID-19 in technical sponsorship by IEEE UP Section. The two-day International Conference aimed to bring together leading academic scientists, researchers, and research scholars to exchange and share their experiences and research results on "Cloud Computing, Data Science, and Engineering". The context of the conference was to inculcate the research culture among the academics and the industry that is facilitated by the ideas of the intellectuals during the conduct of the conference. It also lets the participants acquaint themselves with transcendental growth, recent trends, and innovations as per the leadership and vision of Amity's Founder President Dr. Ashok K. Chauhan, Patron in Chief, Confluence 2022, who believes in outcome-based actions with long-term sustainability.

CONFLUENCE 2022 was honored by the presence of over 110 international speakers and guests from across the world including from the USA, UK, Australia, Argentina, Canada, New Zealand, France, Ireland, Malaysia, Spain, South Africa, Sweden, Singapore, Germany, Italy, Abu Dhabi, Egypt, Ukraine, Portugal, Bangladesh, Netherlands, Japan, Vietnam, Nepal, South Korea, North Africa, Dubai, Greece, Norway, and India. Over 700 technical research papers were submitted to CONFLUENCE 2022 from faculty members and Ph.D. scholars of reputed academic institutions both at the national and international levels. 114 manuscripts were accepted and presented during the two days of the conference. Throughout the conference, the audience experienced innovative ways to cope with the current challenges in cloud computing, data science, and engineering through a broad selection of keynote speakers, tutorials, and special events such as the CEO forum and plenary session. The entire event was partitioned into 8 tracks which are based on various plenary sessions covering the core areas: AI and Soft Computing, Algorithms and Software, Big Data and Data Mining, Cloud Computing and Virtualization, Computer Networks and Sensors, Image/ Video processing, IoT and Automation, and Machine Learning.

Valedictory Session was graced by some eminent resource persons such as David Gries (Cornell University, USA), Mike Hinchey (University of Limerick, Ireland and Past Chairperson, IEEE UK and Ireland Section), Shiaofen Fang (Indiana University Purdue University, USA), Sartaj Sahni (University of Florida, USA), S.N. Singh (IEEE India Council Immediate Past-Chair, India), Peter Robinson (Cambridge University, UK), Samir Shah (Drexel University, USA), Bhiksha Ramakrishnan (Carnegie Mellon University, USA) and Mohamed Ibrahim bin Abdul Mutalib (Vice-Chancellor, UTP, Malaysia). The Guest of Honor, Prof. Peter Robinson addressed the valedictory and talked about how Extended Reality has evolved over the decades. The ceremony came to an end by honoring the Successful Alumni of Amity University with the "Amity School Young IT Achievements Award". This award was conferred to Piyush Arora (Senior Interaction Designer, Google USA), Shivang Kumar (Operations Lead, ANZ, Australia), Mihir Sardana (Analyst, Goldman Sachs, USA), Saniya Sahdev (Senior Technology Consultant, Ernest and Young, USA) and Piyush Khatreja (Assistant Vice President, Credit Suisse, Singapore).

The conference organizers are thankful to the IEEE UP Section headed by Dr. Satish K. Singh and other executive members for their continuous support to make Confluence 2022 a grand success.

OTHER NEWS

Quarter Tech Talk Table 6.0 | IEEE QT3 Series

Ramneek Kalra, IEEE Impact Creator & YP

A group of IEEE Young Professionals & Impact Creators gathered on 27th February 2022 (6 PM - 8:30 PM IST) to create awareness of Blockchain and form a collaborative platform by initiating "Quarter Tech Talk Table 6.0 (QT3)" in the form of a panel discussion on the topic "Role of Fungibility on Digital Assets & Currency". This was conducted in collaboration with "Universal Access to Technology" (Technical Committee) of IEEE SSIT and IEEE Industry Engagement Committee.
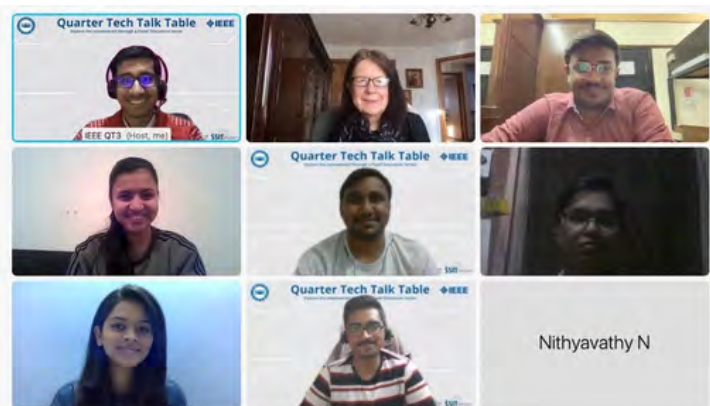
The panelists for QT3 6.0 are:
- Satish Babu (Founder-Director of the International Center for Free and Open Source Center (ICFOSS) of the Government of Kerala
- Aishwary Gupta (Operations Lead at Polygon | Co-Founder- BlockchainByte & BattleBrains | Angel Investor)
- Sagar Khasnis (Senior Cloud Architect | IEEE Young Professional)

Discussed Points:

Various insights from the 6th edition of Quarter Tech Talk Table Series included:
- The negligence of the Indian Government by keeping the scams and sensitivity of cryptocurrencies and bitcoins.

- Relationship and energy consumption of digital currencies from various sources of energy.
- Blockchain applications and their importance in today's world.
- The involvement and assumption by people about cryptocurrencies in today's digital world.

Round 1 (Closed Mic: Discussion on the role of fungibility on digital assets and currency)

- The QT3 6.0 discussion started with a set of questions put forth to the panelists. The panelist touched on various points ranging from the use case of blockchain and its application to views of the Indian government on digital assets.
- Since there exists a trust in physical currencies produced by the Central Bank and are validated by the governments of different hierarchies, the usage of the same is considered to be the safest. Under the constant observation of the digital coins, a panelist states that these currencies are volatile and so they aren't officially approved by the Indian government.
- As a researcher in the field, one of the panelists provided a deep overview regarding why the government of India is not favorably disposed toward cryptocurrencies in general. The speaker also provided possible options regarding digital assets available for Indians. The execution of data correctness using metadata and IoT was also discussed.
- Another panelist being a CA and Co-founder of a blockchain-related platform elaborated on the difference between public and private blockchains and explained which of them is better. The speaker stated that the understanding and flexibility of digital coins have not been achieved to date.
- The flexibility, transfer, and exchange of money and commodities that are fungible and in fungible have been explained. The same is related and differentiated from digital bitcoins and cryptocurrencies that are familiar to everyone.

Round 2 (Open Floor: Ask the Panelist):

Under this last section, the "Quarter Tech Talk Table 6.0 (QT3)" in the form of a Panel Discussion on the topic "Role of fungibility on digital assets & currency" was open to the virtual delegates for the Q&A session. This season of QT3 was a men's special with all-men table-talk, and the discussion was on an important and trending topic of digital currency and assets.

With the ending of this QT3 6.0, founding Chair, Ramneek Kalra and advisor, Dr. Bozenna Pasik Duncan put together the thank you remarks to the panelists & delegates.

The recording of the event is available at: https://ieeetv.ieee.org/video/ieee-quarter-tech-talk-table-60-ieee-qt3-series.

For more information, check the details and register for the next 7.0 Edition below at:
Website: https://attend.ieee.org/qt3/
Registration Link: https://bit.ly/QT3Register

OTHER NEWS

CONFERENCE CALL FOR PAPERS

IEEE Region 10 Symposium (TENSYMP) 2022

IEEE TENSYMP 2022

1st - 3rd JULY 2022
VMCC, IIT Bombay, Mumbai, INDIA

Organized By:

IEEE BOMBAY SECTION

IEEE Region 10

About TENSYMP 2022

2022 IEEE Region 10 Symposium (TENSYMP 2022) is being held in Mumbai, India from July 1 to 3, 2022. This is a prestigious flagship technical conference of IEEE Region 10. The theme of TENSYMP 2022 is "Technologies on the horizon for the benefit of humanity" and its aim is to bring together researchers and engineers from academia and industry to overcome the present difficulties and create prosperous future. Bombay Section welcomes you to the 'magical city' of Mumbai for the 10th edition of TENSYMP. It is back to the in-person Symposium after a few years, enabling better networking and fruitful interactions – both during and outside the Symposium sessions. "Aamchi Mumbai" (Our Mumbai) and the !ncredible India are the exciting tourist destinations during any season of the year. Prospective authors are invited to submit full papers using online paper submission system. All accepted and presented papers will be submitted to IEEE Xplore® digital library for review and publication.

IEEE Region 10 Humanitarian Technology Conference (R10HTC) 2022

IEEE R10 HTC (Conference id:54060) is a premier annual cross disciplinary conference that will bring together technologists, engineers, scientists, investors, representatives from NGOs, governments, academia, and industry. The conference will promote discussions and development of Electrical, Communication, Computing, Security and Disaster Relief areas to present results of recent advancements in technology in order to help improve the lives of the impoverished. It will have plenary talks, keynote addresses by reputed academicians, tutorials & workshops by domain experts, research paper presentations, events for Women in Engineering and Young Professionals. IEEE R10 HTC 2022, which is organized and hosted by IEEE Hyderabad Section, will be held in Hyderabad, 16-18 September 2022. The theme of the conference, "Internet of Things (IoT) and Industry 4.0 – a world of engineering challenges" is to draw special attention to the societal expectation on humanitarian technologies' ability to provide practical and lasting solutions.

IEEE Region 10 Conference (TENCON) 2022

TENCON (IEEE region 10 conference) 2022

"Tech-Biz Intelligence"

TENCON is a premier IEEE international conference in Asia Pacific Region (R10). Hosted by Hong Kong Section and Co-sponsored with R10 Executive Board, the flagship conference is bringing R&D professionals, academia, industry leaders, and pre-university/ undergraduate/graduate students together sharing current state of the art discoveries, knowledge, insights and forward looking work. TENCON 2022 is themed "Tech-Biz Intelligence".

IEEE Hong Kong Section is also very proud to celebrate her 50th Anniversary on this special occasion, showcasing "IEEE as your Professional Home".

TENCON 2022 will be conducted in-person and online on 1-4 November, 2022 at the Hong Kong Convention and Exhibition Centre.

All IEEE current and prospective members are cordially invited to submit papers to TENCON 2022. Up to 3-page Summary (including 30-word Abstract) based on IEEE conference template is required for submission.

All accepted papers will be indexed by EI compendex for inclusion in IEEE Explore.

We also encourage ideas on Panel Discussion along the theme of the conference.

Your physical and digital presence will make this TENCON 2022 and the 50th anniversary celebratory event a fruitful and memorable occasion.

Dr Paulina Chan
General Chair

Paper Submission
https://www.tencon2022.org/portf olio/paper-submission/

IEEE Conference Template
https://www.ieee.org/conferences/publishing/ templates.html

Conference Website
https://www.tencon2022.org/

Important Dates
Submission deadline: 15 Jul 2022
Author notification: 9 Sept 2022

Papers presenting original and innovation work in, but not limited to, the following tracks are invited for submission:
T1. AI & Robotics
T2. Communications & Signal Processing
T3. Information Sciences
T4. Innovation & Entrepreneurship
T5. Leadership & Management
T6. Microelectronics
T7. New Materials
T8. Photonics
T9. Smarttech/Fintech/Edtech/Healthtech
T10. Sustainability & Social Impact

Special Tracks
50th Anniversary Distinguished Lectures

Workshop and tutorials
IEEE standards exhibition
Young Engineers (YE) at TENCON-22
Pre-university Student Forum

Special Focus on:
- Emerging Technologies
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