

2021 ICNL

IEEE India Council Newsletter 2021



Immunizing India

Fighting the pandemic with innovations

Volume 16 | No 2

Message from chair



Dr. K.R.Suresh Nair
Chair, IEEE India Council

Dear Readers,

Warm greetings from the IEEE India Council. Thank you for being a part of this editorial initiative. We all have just gone through the saddening second wave of the pandemic. I would like to convey my heartfelt condolences to the kiths and kins of those who have lost a loved one. The activities of the India Council have once again resumed to keep the spirit of innovation alive. My humble appreciation and acknowledgement to the Vice-Chairs, Chairs and all volunteers for having actively engaged in the activities even in those utterly testing times. All the life members and student members are enthusiastically organizing vibrant events ranging from webinars to charchas to hackathons. Many of these events are being arranged in new innovative ways. I am sure this will contribute to the added IEEE member benefits. This new approach to keep the community active is heartwarming.

The India Council has undertaken a 'Disaster Assistance and Recovery Team' (DART), and the first program planned is the MOVE Outreach India program. Many discussions and deliberations have led to a team of 265 volunteers across the Council. Six teams are functioning as Technology, Operation, Education, Marketing, Funding, and Partner relations teams under selected leaders. We also plan to have a disaster training program for these volunteers. There will be an opportunity for more volunteers to join if they are interested.

The India Council Newsletter team has come up with another edition, and it's filled with many interesting articles, information, and event reporting. I congratulate the team for their efforts. The IEEE President election is coming up soon, and my request to every member is to vote and express our voting power from this part of the region. With my heartfelt wishes, I wish motivation and prosperity for all our readers and members.

Kind Regards
Dr Suresh Nair

Message from Design and Editorial Leads



Prashasti
Editorial Lead



Aakash Reddy
Design Lead

The second wave of the pandemic surely came with unannounced gloom, but we are thrilled to be back with another issue of ICNL 2021. The response we received from student branches is both enthralling and motivating. Despite the harsh elevation of the pandemic, students continued to organise activities through their network and made sure that student members were benefited to the maximum. This newsletter is a sublime overview of the unprecedented and passionate efforts towards advancement of technology and learning that our student branches and sections have made in the last three months.

In light of the rigorous steps the country is taking to recover and restore to offline modes as safely as possible, we decided to choose vaccination as the theme for this issue. On behalf of the entire team we humbly request all our readers and members to get vaccinated as soon as possible. We urge you to also take a humanitarian step forward and help those around you get vaccinated as well. There are many individuals who are not equipped with necessary technology or are not aware of the gravity of this issue. Together, as torchbearers of technology and humanity, we can help the community get back on its feet.

We acknowledge the efforts of our entire team. Both the design and editorial teams have put their best foot forward to summarize the activities and achievements of India Council in an interesting yet informative manner. We extend our gratitude to our design team members – Aswin, Jachin, Deepak and Kush for their tandem knack for creativity and flawless execution. Our sincere thanks to our editorial members Viswesh, Varun, Aakash and Suyog for their indispensable efforts and praiseworthy ideas. We appreciate how fervently the teams have worked together. We are looking forward to more forthcoming issues of ICNL.

Best Wishes

Aakash and Prashasti

(Design Lead and Associate Editor, ICNL)

Tribute to Dr. Ram Gopal Gupta, Past Chair IEEE Delhi Section and India Council.

By Rajendra K. Asthana, LSM, Chair, IEEE R 10 Life Member Committee, Ombudsman, India Council



Dr. Ram Gopal Gupta a Doctorate from Indian Institute of Technology (IIT), Delhi, (popularly known as RGG), retired as Senior Director (i.e., SAG / Joint Secretary Rank of GOI) from the then Department of Information Technology / Electronics. In the Department among other activities, he was known for organizing an Exhibition of Electronics annually at all-India level.

Dr. Gupta was a Senior Member of IEEE & Fellow and Life Member of the TEB for the technical publications of the Largest

Profession Body in India, IETE (Institution of Electrical and Telecommunication Engineers). He was a Member of the nomination committee for an international award for Techno-entrepreneurship development instituted by The TAKADA FOUNDATION, Japan. Initiated Electronics and IT Expositions (ELITEXs) etc. He made numerous reports to enhance the vision on the "Role of United Nations and Specialized Agencies for Developing IT".

Dr. Gupta, an IEEE Volunteer became Chair of the Joint Chapter IEEE AES COM LEO Society of the India Council.

In 2007 he was appointed as Member Board of Governors for IEEE Technology Management Board; Editorial Board Member of The Open Aerospace Engineering Journal published by Bentham Science Publishers. He also served on the Board of Governors of IEEE AES Society and the Board of Governors of IEEE Photonics Society.

He popularized IEEE in the Government. This innovative efforts led to the sharp increase in IEEE Student Branches in India and the overall membership growth. After taking over as Chair, he retrieved the IEEE AES COM LEO Society of India from IEEE Disqualified Chapters and achieved the Best Chapter Award from IEEE ComSoc for more than five years. His major & contribution and initiatives included series of International Conferences on Wireless Communications (IEEE ICPWC) as Conference Chair in India since 1996 with participants from 22-25 countries. In the early stage of development of the concerned Technology, Dr. Gupta supported Prof. Vijay K Bhargava (of UBC, Vancouver, CC, Canada / University of Victoria). He was also a Member of TPC of world largest IEEE Communication Conference: GLOBECOM and ICC. Other worth mentioning activities undertaken by him were:

- Popularize IEEE technical activities for students, academia, and industry;
- Initiated two major IEEE Conferences in Communications and ATM;
- Major push in New Students Branches in engineering

After being at the helm of affairs of IEEE Computer Society, Delhi Chapter for couple of years, in 2007 he was appointed IEEE Delhi Section Chair for the two one-year terms 2007 and 2008. As Chair IEEE Delhi Section, he continued his earlier initiatives.

At a time when IEEE India Council was struggling for its survival for over 2 years, immediately after taking over as Council Chair, Dr. Ram Gopal Gupta faced Challenge to revive Council. Dr. Gupta initiated following bold decisions to rebuild India Council.

- He got modified Council Bylaws framed in 1976 which were outdated. New Bylaws duly vetted by MGA were approved in a special GBM held on 17-12-2011 and adopted with immediate effect.
- New Bylaws Stipulated minimum eligibility qualifications for electing a Council Chair.
- Most important inclusion was that “Chair – Elect” will automatically take over as “Incoming Chair” from next (coming) First January even if full ExCom is not finalised. Under No Circumstances present Chair will continue beyond 31st December of current year.
- Officers and various Committees were clearly spelled out.
- Under no circumstances, elections will be held for Chair (No petition permitted) unless Chair-Elect refuse to take up the post of Council Chair”. This was a bold amendment to the Council Bylaws.
- Strict time frame for nominating Slate & elections were redefined.

Many other important decisions were taken during these 2 years and Council could regain some of its lost glory. He continued his previous initiatives to popularize IEEE technical activities for students, academia, and industry and gave push to New Students Branches in engineering, INDICONs etc.

Based on solid foundation laid by Dr. Gupta, next Council Chairs contributed tremendously to take India Council to Newer Heights, which is quite visible year after year.

As a dynamic IEEE Volunteer, Dr. Gupta was honoured by following IEEE Awards:

- Outstanding IEEE ComSoc/AESS Chapter Award for year 2002, 2003, 2005, and 2006.
- Outstanding IEEE AESS Chapter Award for year 2005.
- Best Region IEEE Communications Society Chapter Achievement Awards for 2005.
- Region 10 Outstanding Volunteer award in 1999.
- 2011 IEEE AES awarded “IEEE Member and Geographic Activities (MGA) Leadership Award with citation” for his “distinguished leadership and outstanding contributions as a volunteer, at the Section and Regional levels, serving the IEEE for the benefit of

its members and the engineering profession by popularizing IEEE in local industry and common engineering students”.

- Region 10 – 2012 Academia-Industry Partnership Award for Outstanding contribution in dissemination of information about indigenous R&D and promotes interaction & commercialization among users, industry and R&D institutions.

Dr. Ram Gopal Gupta passed away on April 24, 2021. We all in IEEE pray to God to grant Salvation (Sadgati) to the departed soul and give strength to the family members to bear the irreparable losses. Om Shanti !!



About the theme

"Inside of every problem lies an opportunity."

– Robert Kiposaki

Get Vaccinated

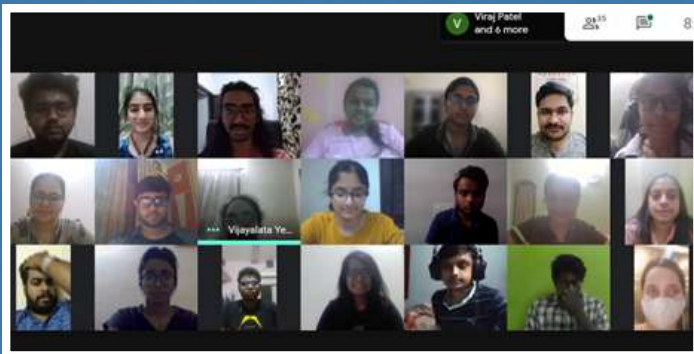


The second wave of covid-19 has hit India hard, Indians were on a ride of untold misery, pain and splendid recovery with the medical fraternity bracing up to the onslaught. The causes are plenty but our resilience and determination helped us out maneuver the challenge at the earliest. The resolve of our doctors, nurses and frontline workers especially the police and sanitation workers helped us through this grave crisis.

Innovation is a key aspect to tackle the outbreak. In our war with the virus, cutting edge research and pioneering ideas by engineers and scientists grappled with the situation. As the virus turned deadlier so did brilliant solutions by talented men and women. It is the scientific community and the medical fraternity which have facilitated the successful development of a vaccine. India is a vaccine hub and a global exporter helping humanity through this grave crisis. We from the IEEE ICNL team request you to get vaccinated at the earliest in our fight against this virus.

1 INDIA COUNCIL REPORTS

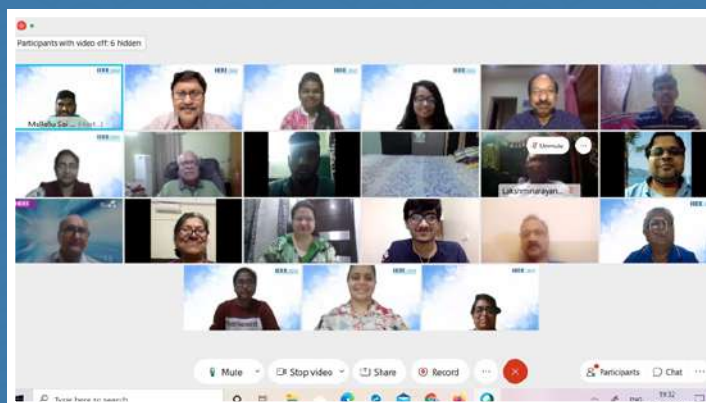
1.1.1 IEEE India Council Student Activities Committee Report (April-July)



IEEE India Council Student Co-Ordination Team began their second quarter in April 2021. The first meeting of the IC SCT '21 with the Execom members was held on 4th April 2021. This meeting was presided over by Dr. Suresh Nair (Chair, IC), Dr. Debabrata Das (Chair-Elect, IC), Dr. Rajashree Jain (Secretary, IC), Dr. Purna Kaur (treasurer, IC), Dr. Y. Vijayalatha (Vice-Chair SAC, IC). The agenda was to introduce the newly formed SCT to the Execom members, and the Execom members to pitch in their suggestions regarding events

and activities of IC SCT in 2021. Sneha Chandran (Chair, IC SCT '21) briefed about the IC plan for 2021 followed by a briefing about the current SCT team members and core advisors. The future activities to be organized were discussed at the end of the meeting.

The third IC SCT meet was held on 30th May 2021. Progress of each sub-team was discussed and brainstorming on new ideas was done during this meeting. The team was also inspired to come up with exciting activities for the following quarter. The first webinar for this quarter was 'Humanitarian Outreach Camp 1.0' was successfully conducted on 12th June 2021. The special speaker for this event was Prof. Bijoy Jose, IEEE R-10 HTA Member and Past Recipient of the HAC proposal. The objectives of this event were to brief participants about a special call for proposals focused on addressing solutions for local needs caused during the Covid-19 pandemic initiated by IEEE R-10 HTA and IEEE HAC, to promote engineering and technology for the development of solutions to humanitarian problems through competition and conference, to encourage R10 Sections and individuals to work in the area of Humanitarian Technology and to enhance the visibility of HTA and give recognition to significant humanitarian work and projects done by R10 members.



proud host of the webinar 'IEEE Software and Systems Engineering Standards' by Ms. Susan Kathy Land, IEEE President and CEO 2021, dated 10th July 2021. The participants received in-depth knowledge about the role of IEEE software and systems engineering standards as a basis for software improvement.

1.2 IEEE India Council Educational Activities Committee



inauguration of the event.

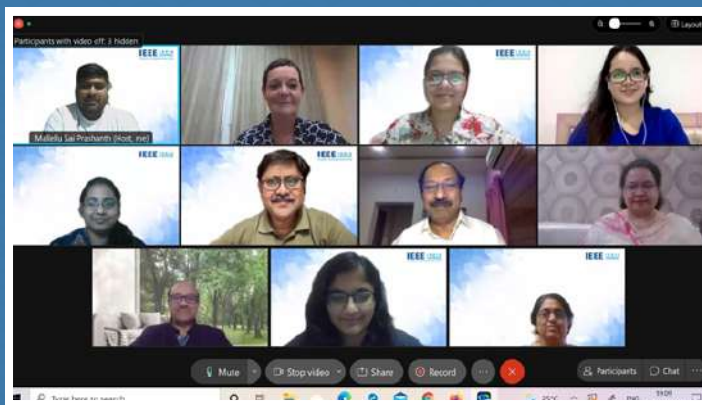
The following day, on 13th June 2021, the inaugural episode of 'Chai Pe Charcha', a Tea Time. The talk series was conducted with the first guest speaker Mr. Deepak Mathur, Director IEEE R-10. This rendezvous encouraged and enabled participants to be candid in conversation with the speaker and an open platform to ask questions. The event started with Mr. Mathur answering questions about the importance of volunteering and its different aspects that help the overall development of students followed by him narrating his IEEE journey. Various topics like sustainable technologies, the balance between academics and volunteering were also discussed. The session concluded with Mr. Mathur sharing a story and a piece of advice for all the young volunteers of IEEE. IEEE IC was a

IEEE India Council organized the IEEE R10 EAC supported TryEngineering & STEM workshop on "Arduino Blink Challenge" on June 25th & 26th, 2021. Dr.D.Devaraj. Vice-Chair, IEEE Educational Activities, Dr.Suresh Nair, Chair, IEEE India Council, Dr. Rajashree Jain, Secretary, IEEE IC were actively involved in the

Mr.Jenyfal Samson from Kalasalingam Academy of Research and Education (KARE), Mr.Vasanthkumar from SRMIST, Mr.Radeep Krishna from KARE, Dr. D.Ganesha Perumal from KARE, Ms.Nidhi Pathak (IEEE IC EA volunteer), Dr.Pravin Wankhede from Shri Sant Gajanan Maharaj College of Engineering, Dr.N.Pothirasan from KARE handled the sessions on both the days. This was followed by a competition for the participants by Ms. Divya Chhabaria, an IEEE volunteer. Dr. Preeti Bajaj, Chair, IEEE R10 EAC, and Dr. D. Devaraj, were actively involved in the valedictory ceremony.

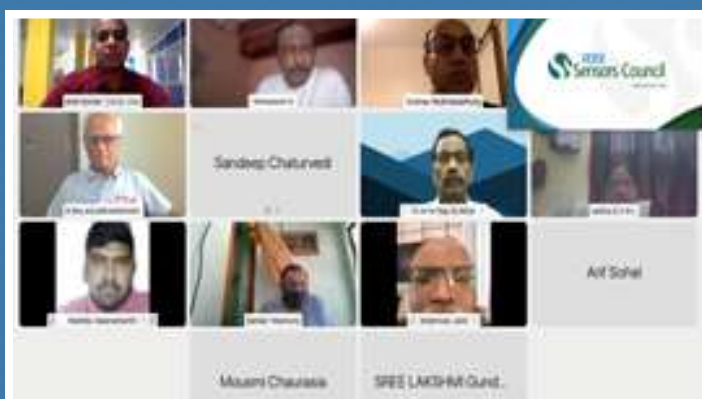
SECTION REPORTS

1. IEEE Hyderabad Section



IEEE Hyderabad Section SAC Adithyam 2021

IEEE Hyderabad Section Student Activities Committee has taken an initiation of Zonal Congresses. The first Zonal Congress is the Warangal Congress named Adithyam'21 held on 1st May 2021. This is planned with technical and non-technical events. The main motto of this first virtual Zonal Congress is to ignite the students and delegates with the knowledgeable sessions which inbuilt the concepts of milestone technologies. This congress is like an inventive conceptual event with lots of information and entertainment which helps every student to bring out their introverted ideology to the extrovert businesses or startups.



IEEE Sensors Council joint chapter of IEEE Hyderabad Section and IEEE Ananthapuram sub-section

IEEE Sensors council chapter of Hyderabad section Inaugural program on 4th July 2021 with Prof Subhas Mukhopahyay's as resource person. It was attended by 97 participants.



IEEE Hyderabad section Life Member Affinity Group (LMAG) Activities

Conducted webinar on Collaborative and Interdisciplinary Research, the Success Stories in Space, Business, Academics, Outsourcing jobs, and many more. Dr. K.M.M Rao, Chair, LMAG, IEEE Hyderabad Section on 16th May 2021. Conducted webinar on 19th June 2021, IEEE LMAG, Hyderabad Section Jointly with JNTUH-CEH IEEE Student Branch, "Career Opportunities, Collaborative and Interdisciplinary Research in Space Systems, Healthcare Systems".

Mentoring two students in the areas of Remote Sensing, Image processing, they will complete the project work by October 2021.



IEEE Computer Society Sameeksha 2021

IEEE CS SAMEEKSHA 2021, the first edition organized by IEEE Computer Society under IEEE Vardhaman College of Engineering Student Branch and IEEE Sri Venkateswara College of Engineering Student

Branch in collaborative support with IEEE Hyderabad Section SAC and CS Hyderabad Chapter as a part of 75th CS Anniversary Celebration on 8th and 9th May. The theme of the event is "Industry 4.0: Technology that will transform the

globe". CS SAMEEKSHA, understudies about Industry 4.0, organizing openings and giving an opportunity to develop around the world. Through this event, individuals shared and exchanged their knowledge, worked together, and strengthened networks.



IEEE Regional SPS Meeting on Biomedical Signals and Deep Learning Applications Summit 2021

IEEE Signal Processing Regional Meeting on Deep Learning and Biomedical Signals 2021, is the First Edition of the regional meeting

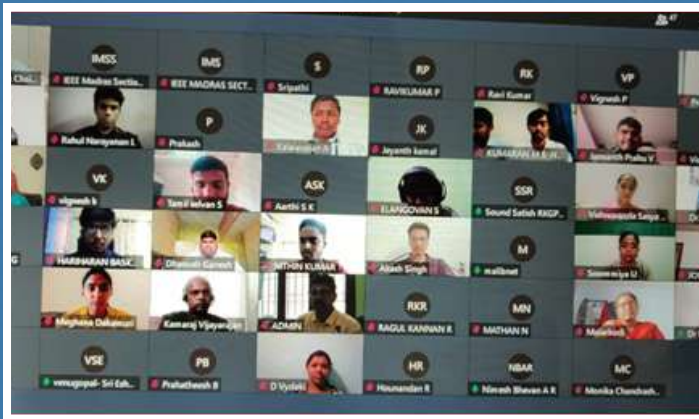
organized by IEEE Signal Processing Society Student Chapter under IEEE Vardhaman Student Branch in association with IEEE Vardhaman SB WIE, Computer Society and Education Society Chapter on 14th – 16th June 2021, it is the Student Professional Awareness Conference (SPAC) 2021, which is Being funded by IEEE Signal Processing Society and IEEE Students, Technical consortium that encourages women and men in engineering disciplines to share ideas and build a professional network to enhance their skills.

2 IEEE Madras Section



IEEE Madras Section Student Co-ordination Team 2021 has been formed successfully. The orientation meeting took place on 25 April 2021, hosted by Mr. Aravindhan, IEEE Madras Young Professionals Chair. Dr. N.Kumarappan, IEEE Madras Section Chairman, Dr. D.Devaraj, Dr. S.Joseph Gladwin, IEEE Madras

Section Treasurer, also were part of the event and shared their valuable opinions and future plans.



Student Project Funding 2020 – 2021

21 out of the 48 projects were short-listed for a pre-final selection demo that was conducted online on December 5th, 2020, by Jury. The final validation program was conducted on April 17th, 2021,

through virtual mode. Six projects were found suitable for certification and a cash award of Rs.15,000, 10,000, and 5,000 for first, second, and third places, respectively. The Jury members who supported the selection process were Dr.V.Kamaraj, Prof. Dept. of EEE, SSN College of Engineering, Dr.D.Vydeki, Associate Prof./SENSE, VIT Chennai, Dr. Sangeetha RG, Associate Prof. Senior, VIT, Chennai, A.Malarkodi, NIOT, Ministry of Earth Sciences, Chennai, Dr. Satish R, AROBOT, Chennai.

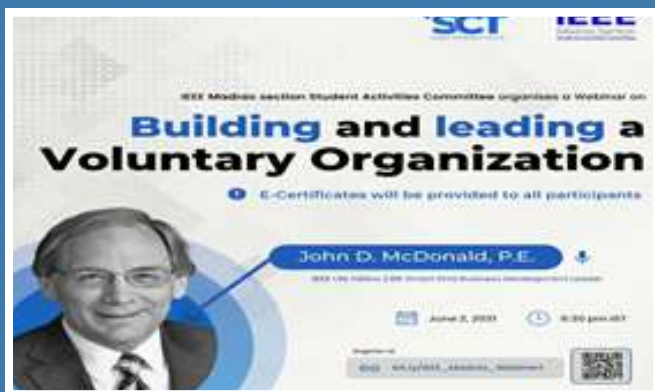


Webinar on "IEEE Student Membership Awareness and Benefits"

Electrical and Electronics Department of KSR College of Engineering and IEEE Madras Section SAC had organized Webinar entitled "IEEE Student Membership Awareness and Benefits" on May 7th, 2021. Faculty members and students had enriched the knowledge of IEEE Student Membership Benefits. This event gave information about how to get a Network with other technology professionals and create a group to share and



collaborate on projects. We had an integrated multi-functional platform and a global network of technology-focused professionals through this program, leveraging IEEE's extensive knowledge base and community of thought-leaders.



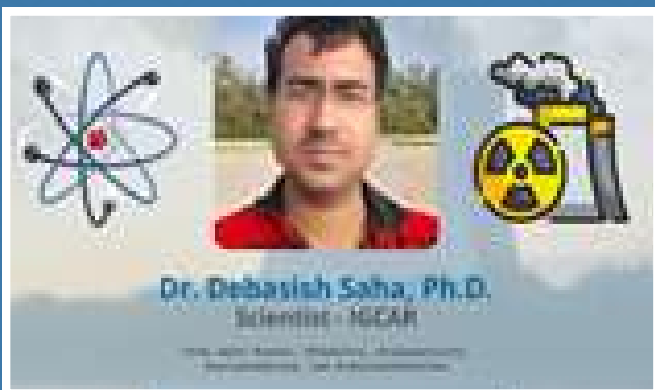
Webinar on "BUILDING AND LEADING A VOLUNTARY ORGANIZATION"

The IEEE Madras Section Student Activity Committee organized a webinar on "Building and Leading a Voluntary Organization" on 2nd June 2021 at 6.00 PM. The session was handled by Mr. John D. McDonald. Dr. N.Kumarappan, IEEE Madras Section Chairman, began the webinar with a welcome speech in which he shared a few words about the speaker and invited students to participate in the webinar.



ONE DAY WORKSHOP ON "ATOMIC SCIENCE"

IEEE Madras Section, in association with IEEE St. Joseph's College of Engineering Student Branch chapter, organized a one-day workshop on the topic "Atomic Science". The session started with the citation by Dr. N.Kumarappan, Chair and SAC



Chair, and the session was handed over to Dr. Debashish Saha, scientist, and a teacher, and 140 participants attended the event. The speaker started the session by briefing the participants about the basics of atomic science. The advantages of nuclear science were briefly explained. Ms.

Udhayaraga handled the queries session and also presented a memento for the speaker. Dr. N. Kumarappan shared his thoughts about the session at the end.



Tamil Debate

IEEE MAS WIE Affinity Group under IEEE Madras Section in association with IEEE St. Joseph's College of Engineering WIE Affinity Group organized an event Pattimandram on June 20th, 2021, on the topic "Future of women has been decided by parents or by community!" Dr. N Kumarappan, Chairperson, IEEE Madras section, as a judge for this event, expressed his thoughts. The welcome speech was delivered by Ms. Abinayaa Sri T, Vice-Chair for IEEE SJCE WIE Affinity Group. The session took place on zoom and was broadcasted live on YouTube. The session wasZ between 5.30 - 7 pm. On Behalf of IEEE St. Joseph's College of Engineering,

Mementoes were given to Dr. N Kumarappan and Ms. Nithyavathy by Ms. Akshaya, Chairperson of IEEE SJCE WIE Affinity Group.

HighPreneur – IEEE Entrepreneurship Kickstart Program



HighPreneur, a 4 – Day event, 6 – Module workshop sponsored and supported by IEEE R10, IEEE R10 Young Professionals, IEEE Madras Young Professionals, IEEE Madras SAC, IEEE Madras Women In Engineering, IEEE Madras Education Society, IEEE Madras SSIT Chapter, IEEE Madras TEMS Chapter

proficiently in virtual mode from May 13th to 16th 2021, sharply from 6 pm to 8 pm every day. The program commenced with the Inaugural ceremony and involved many eminent personalities like Dr. N. Kumarappan, Dr. N. Nithyavathy, Dr. G. Kulanthaivel, Dr. Darwin Jose Raju, Mr. Navaneethakrishnan, Mr. M. Arun, Mr. Elanchezhian Ragavan, Mr. Jack Anto, Mr. B. Ashvanth, Ms. Radha Rengachari.

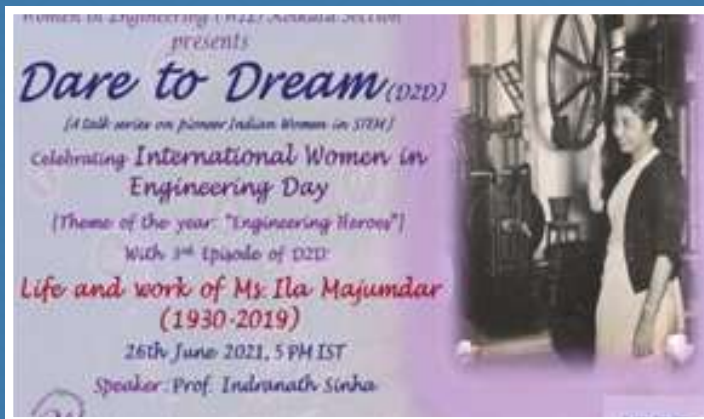
3. IEEE Kolkata Section



Webinar on Second Edition of the Talk Series "Dare to Dream"

On April 3, 2021 IEEE Kolkata Section and WIE, Kolkata Section jointly organized the Second edition of Talk Series "Dare to Dream" on Indian Women who have ventured into STEM careers more than 50

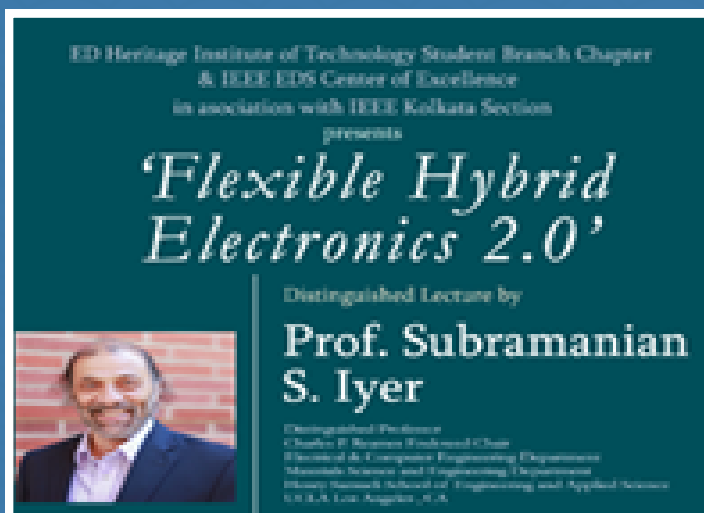
back. Dr. Suprakash C. Roy, Professor and Chairman, Department of Physics at Bose Institute, Kolkata was the keynote speaker for the event. He spoke on the "Life and Work of Dr. Bibha Chowdhuri".



Webinar on Third Edition of the Talk Series "Dare to Dream"

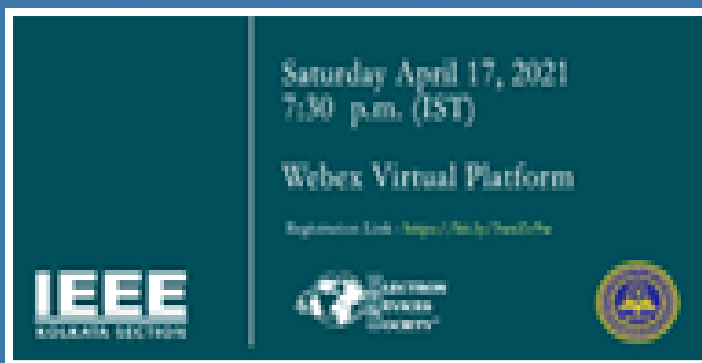
On 26th June 2021, IEEE Women in Engineering Kolkata section and IEEE Kolkata Section jointly initiated a Talk Series "Dare to Dream" on Indian Women who had ventured into STEM careers more than 50

years ago. Topic of talk was "Life and Work of Ms. Ila Majumdar". The talk was delivered by Prof. Indranath Sinha based on the research by him and Mr. Asim Deb. Prof. Indranath Sinha is working as a Professor in Mining Engineering Department of IIST, Shibpur and Mr. Asim Deb is also associated with the same institute.



Webinar on Flexible Hybrid Electronics 2.0

On April 17, Saturday, 7.30 pm (IST) ED Heritage Institute of Technology SBC and IEEE EDS Center of Excellence in association with IEEE Kolkata Section organized a DL Program. Esteemed speaker for the event was Professor Subramanian S. Iyer. He holds the Charles P.



Endowed Chair in the Electrical Engineering Department and a joint appointment in the Materials Science and Engineering Department at the University of California at Los Angeles. He enlightened the crowd on the topic – Flexible Hybrid Electronics 2.0.



IEEE PES DAY Celebration

IEEE PES Chapter, Kolkata Section celebrated the IEEE PES DAY on 22nd April, 2021 by organizing a panel discussion at 7:00pm IST. The topic of this event was "Roadmap to Clean Energy Revolution". Esteemed Panelists were Professor Saifur Rahman, Director, Virginia Tech Advanced Research Institute, USA, Professor Zuhaina Zakaria, Dean Institute of Graduate Studies, Universiti Teknologi MARA, Shah Alam, Malaysia, Mr. Rajib Kumar Das,

Deputy General Manager, CESE Limited, India and Professor Sujit K. Biswas, Dean (Academic) and Professor, Electrical Engineering Department, St. Thomas College of Engineering & Technology, Kolkata, INDIA (as moderator).

4. IEEE Bombay Section

1. Entrepreneurship Boot-camp 2021

IEEE Bombay section in association with premier Academic Institutes and Professional Organizations launched Entrepreneurship Boot-camp during July 5-10, 2021 to trigger the entrepreneurship bugs in the minds of young budding professionals. An activity-based learning was the key point of the boot-camp with a relevant influencer sharing experience in start-up business. Sessions Impact is when the participants hear success stories of successful entrepreneurs. The large-scale promotion of this event helped us herald 4400 registrations from

different cities and states around the nation. A total of 4050 students, 248 Faculty and 92 Professionals registered for IEEE Entrepreneurship Boot-camp 2021. The boot-camp program was a mix of Training Sessions on Entrepreneurship Fireside Chats, Heart-to-Heart Talks, Inspiring Founders' Speech by successful start-up founders and Activity Canvas.

Mr. Anand Gharpure, Chair-elect IEEE Bombay Section declared the opening of the Entrepreneurship Boot-camp 2021. Mr. Abhay Phansikar, Vice Chair of Industry Relations India Council in his speech highlighted the theme of bootcamp. Mr. Rahul Chari gave the keynote address. He stated that entrepreneurship could create social and population-wide benefits. IEEE Entrepreneurship Boot-camp created a great impact on young mind to kick start their entrepreneurship journey.

2. Machine Learning Bootcamp

IEEE CIS Student Branch Chapter – G. H. Raison College of Engineering, Nagpur has conducted the 6-Week Machine Learning Boot Camp from May 8 to June 13, 2021. The Bootcamp was to introduce the basic concepts of Machine Learning and how to step into this field to the students. Participants were introduced with the Machine Learning Basics, they were explained what Artificial Intelligence, Machine Learning and Deep Learning is. They were also taught the basics of Python programming language so that they can feel comfortable writing Machine Learning algorithms using them in future. More than 470+ students from various institutions registered for this bootcamp including more than 30 students from Malaysia.

Mr. Atharva Khedkar and Mr. Aditya Bobde along with the team of IEEE CIS Chapter worked under the guidance of Prof. A. Thomas (Chapter Advisor and Head – Department of Artificial Intelligence).

3. IEEE BOMBAY SECTION K SHANKAR AWARDS 2020

From this year, IEEE Bombay section has revived and renamed our Section's prestigious K. Shankar awards as the "Bombay Section's K. Shankar Meritorious Paper Awards". He was a professor at IIT Bombay and IEEE BS secretary. The impetus was to encourage the budding researchers. The award categories are from UG to Ph. D level and also for the industrial section. The Presentation Ceremony of the same was held online on Sunday, June 27th at 6pm. Dr. Suresh Nair, Chair, India Council was the Chief Guest of this function. This event was attended by the award jury members, award winners, and nominees of all papers along with the BS Execom Members. This function was also graced by the past chairs of IEEE BS.

List of Winners:

1. Sanyukta Santosh Pawaskar- UG Conference
2. Vijay Rao Kumbhare-UG Journal
3. Mandar Padmakar Joshi- PG Conference
4. Siba Kumar Patro – PG Journal
5. Anilkumar Chappa- Doctoral Conference
6. Mini Rajeev – Doctoral Journal
7. Prashanta Kumar Jena- Doctoral Journal

4. IEEE CIS Outstanding Chapter Award

IEEE CIS Student Branch Chapter – G H Raisoni College of Engineering, Nagpur has been selected to receive the IEEE CIS Outstanding Chapter Award 2022 with the citation “For the innovative and wide range of diverse and inclusive activities which connect research, education and industry in the field of computational intelligence”. The award includes an honorarium of USD 2,000 along with a certificate. The IEEE Computational Intelligence Society annually recognizes significant contributions and meritorious service in the field of computational intelligence.

The strong nomination packet was assembled by Mr. Atharva Deolalikar, IV B.Tech (AI) student and Chair, IEEE CIS Chapter to recognize the chapter's accomplishments. The CIS Team thanked the Director of the Institute Dr. Sachin Untawale and management for their support in all the endeavours. The team is also grateful to all Deans, Heads for utmost cooperation in conduction and execution of all the events.

5. IEEE Delhi Section



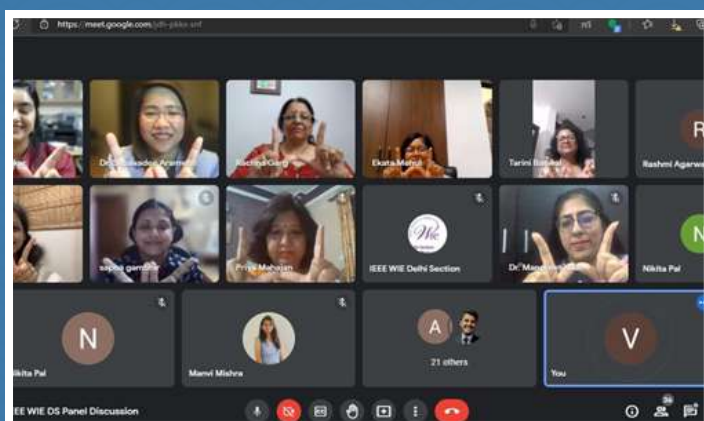
The membership development committee conducted the following events successfully organized the Webinar on “**IEEE Membership Development Drive**” which was attended by over 80 attendees on 19th June 2021 through an online platform. Prof. Rachna Garg, chairperson of IEEE Delhi Section,

and Prof. Purna Gaur, Past Chairperson of IEEE Delhi section were the resource persons. The session was moderated by Dr. Jasdeep Kaur and Dr. Shruti Jain.

A Webinar on “Research in Digital Age: Problems and Opportunities” was held on 26th June 2021 which was attended by around 215 participants, out of which 23

were IEEE members. The Webinar was held in the benign presence of Prof. Subrata Mukhopadhyay, Chairperson, CNA Group and Former Chairperson, IEEE Delhi Section.

Webinar on **“Communication in Crisis Management-How to do it Right”** was held on 19th June 2021 which was attended by around 275 participants of which 35 were IEEE members. Mr. Daman Dev Sood, FBCS, AFBCI, CBCI, SMIEEE, MAIMA, ISO 22301 LA & Expert IEEE Ambassador and International Resilience Trainer was the lead speaker of the webinar.



On the occasion of International Women in Engineering day on 23 June 2021, IEEE WIE AG Delhi Section organized a panel discussion on “Post Covid Impact: Challenges & Opportunities”. The distinguished panelists for the discussion were Prof. Rachana Garg, Prof. in DTU and Chair Rachana Garg, Prof. in DTU

and Chair, IEEE- Delhi Section, Dr. Supavadee Aramvith, Associate Professor, Chulalongkorn University, Ms. Tarini Baswal, Group General Manager, GM / Rail India Technical and Economic Services, Govt. of India Enterprise, Ms. Ekata Mehul, Principal Director, Orena Solutions, Ms. Dhvani Jain, Founder-Karma Foundations. The moderator of the event was Ms. Anupama Thakur, DST-INSPIRE Senior Research Fellow at CSIR-CSIO, Chandigarh. The event was attended by more than 50 participants.

Two student branches from the IEEE Delhi section viz. J.C. Bose University of Science and Technology, YMCA, Faridabad and Indian Institute of Technology Mandi (IIT Mandi), Mandi, Himachal Pradesh, India got approved for IEEE Region 10 Student Activities Committee Funding 2021 under R10 'Matching Fund Policy'

VACCINATION RESOURCES

The fight against Covid is one of the biggest this world has witnessed in a very long time, almost a year was invested by each country around the globe to tackle this new and deadly virus. While every country was dedicated to finding the cure to Covid-19 almost after a year of hard work and endless research, finally we found a precaution in the form of vaccines. India is living the hour of resurrection at the moment. India began the administration of COVID-19 vaccines on 16 January 2021. Since then rigorous efforts have been made to vaccinate the Indian population as soon as possible. Despite encouraging early results for coronavirus vaccine trials, achieving herd immunity requires substantial uptake. Although a safe and effective vaccine holds the greatest promise for resolving the covid-19 pandemic, hesitancy to accept vaccines remains common. India has been promoting its vaccination drive with the help of many incentives such as providing free vaccines for all when visiting government hospitals special preference for senior citizens to get vaccinated, despite many efforts to get everyone vaccinated there was still some concern within a certain number of citizens as some of them did not want to get vaccinated and this became a common issue in many regions despite the known efficacy. Listed below are some resources that can provide in-depth information about vaccines available in India, their efficacy, global aspects of vaccination programs and much more.

Ministry of Health and Family welfare (vaccination resources)

Benefits of vaccination (Research by American Journal of Preventive Medicine)

Covid-19 Vaccination (World Health Organization's Resources)

Safety and efficacy of Covid-19 vaccine (Centers for Disease Control and Prevention)

Safety profile of Covid-19 Vaccines (Proceedings of the National Academy of Sciences, USA)

Three components of vaccine confidence are vaccine efficacy, probability of minor side effects and probability of serious adverse reaction. Vaccines have gone through all the required stages of clinical trials, extensive testing, monitoring and have shown that these vaccines are safe and effective. Studies have also shown that vaccination provides a strong boost in protection in people who have recovered from covid-19. Vaccines can help to contain and combat the virus. Safe and effective vaccines are game-changing, but for the foreseeable future, we must continue wearing masks, cleaning our hands, ensuring good ventilation indoors, physically distancing ourselves and avoiding crowds. But remember, it's not vaccines that will stop the pandemic, it's vaccination. Administration of the vital shots is our hope for the future.

1. Predictive analytics beneficiaries and Methods

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The future is unpredictable. But it is our curiosity to know the future that we try to find ways and means to know the future. Survey says that 90 % of the adult population knows their zodiac sign and more than 50% believe that the signs' character descriptions are a good fit. That is the reason that the Astrology and horoscope columns are a familiar feature of tabloid newspapers, Women's magazines and the web. Even today the thrust to know the future is not drenched. Today, technologists, engineers, statisticians and data analysts are trying to predict future events scientifically by analyzing large amounts of historic data and applying intelligence to the analysis. Since the study has proven that the accuracy of the prediction depends on the historic data used for analysis. Also, today with the advent of sensor devices and computing resources available, it is possible to collect the data samples in real-time, store them in large databases and analyze them even if the data set is large, called big data. Predicting events even if it is indicative, gives us a huge advantage in terms of preparedness to handle the events. Hence, knowing the benefits of the prediction of future events is multifold even if it suffers from some accuracy. Fields like healthcare, manufacturing, supply chain logistics and planning the future load on facilities serve as a great help. This article tries to throw light on a few domains and few techniques which are used in predictive analytics.

Beneficiary domains

As predictive analytics make sense with data sets, it is the data-driven industries which are the beneficiaries of predictive analytics. Following industries deploy predictive analytics at present:-

Retail: Predictive analytics by knowing the product stock and the rate at which they are picked by the customers gives the indicative idea of when the stock would get exhausted and hence can be planned well. This is the reason why retail stores use predictive analytics in their business.

Healthcare: Another area which seems to be the beneficiary of predictive analytics is healthcare. It is believed that the adoption of predictive analytics in healthcare would reduce the patient wait times by 15% which is the major benefit to the already stressed doctor community.

Manufacturing: Manufacturing is another sector where predictive analytics will be of great help. Predicting machine conditions and planning the maintenance and

services will help the factory line to reduce the downtimes. This will improve productivity to a great extent. Also, predictive algorithms help in assessing the raw material inventories and plan the purchases accordingly so that the production line is not halted for the unavailability of the raw materials.

Banking: Banking sectors today use predictive analytics to improve customer satisfaction by providing better service and identifying fraudulent activities. By analyzing the suspicious behaviour of the customers, the chances of fraud cases can be identified and hence can be prevented which would otherwise cost heavily on the banks.

Public transportation: Transport companies use predictive algorithms to predict the passengers using the transport vehicles to plan to run additional vehicles in selected routes which indicate rush conditions. This improved passenger service by reducing wait times and comfort.

Cybersecurity: Companies big or small which use information technology are prone to cybersecurity threats. It is essential to protect the transactions by proper security measures and must be able to predict any kind of fraudulent possibilities anytime.

Predictive analytics techniques

Predictive analytics as mentioned earlier is the area of data science which analyzes existing historical data to interpret and predict future events. It uses both statistical and modelling techniques to identify relationships and patterns among data sets and derives meaningful information. Major statistical techniques used in predicting the future events are:

Data mining: Process of looking for relationships and patterns among large datasets collected and stored.

Text analytics: Organising unstructured raw data to structured data sets which can be analysed by algorithmic means.

Predictive modelling: Deriving a statistical model from the organized data set and identifying trends, relationships and extrapolating it to predict the future events. There are many modelling techniques used for this purpose. Some of them are linear or multivariate Regression modelling, which is a supervised machine learning algorithm, Polynomial regression or logistic regression techniques.

Once the data set is modelled, it is classified by a number of classifying techniques

and analyzed for trends and dependencies for predicting the future events. Predictive analytics serve as very useful tools for companies to be more effective and efficient to serve the stakeholders for which they exist. Not to be forgotten is that predictive analytics are good if the dataset is good and hence the challenge is to collect and store the correct data set which serves as a basic requirement for correct prediction.

2. Light Board Technology for Online Teaching

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In today's world, students see smart boards in place of chalkboards. The assignments are given online rather than on white paper. An educational lecture intended to post online is called an online lecture. Lectures are recorded in different formats and uploaded, and made available on the allocated site. Learners can observe the lecture online at any point in time. Traditionally the education system is vocal, and it is possible when the instructor and learner are present in the classroom. The teacher passes on the knowledge in the same proximity as the learner. With the advancement in information and communication technology, an online lecture is possible. Now with the video lecture assistant, the learner and the trainer need not be in the same proximity to teach and learn, respectively.

The advantages of online lecturing are that learners can access the lectures anywhere in the world, at any appropriate time they prefer, As long as they are connected to the internet. Overall privileges of an online course are students can effortlessly access achieved lecturers. The video lecture is nothing but visual information and audio of the teacher. Lecture capture can be used to retain and archive the lessons quickly. Capturing can be done using a video recorder or a web camera in the classroom. Information to convey and equipment need to figure out while recording the lectures in the class. Visual learners and auditory learners can easily understand the concepts which are available in video or audio format. There are many institutions in the world proving knowledge using Information and communication technology tools. Table 1 presents the number of online courses by NPTEL (National Programme on Technology Enhanced Learning) in collaboration with India's different institutions. Approximately 935 courses are endeavoured online by NPTEL. Online lecture videos tend to improve education outcomes associated with other methods.

1.1 Asynchronous teaching

Compared to a traditional classroom, online learning provides a greater degree of versatility. The versatility comes from communicating with learners from various topographical locations and providing diverse perspectives on course content. The

course offered Online is contemplated as asynchronous learning. This type of learning uses digital platforms where the learners need not be online all the time. E-mails and thread discussions are few options for asynchronous delivery. One of the critical benefits of asynchronous learning is that students have extra time to produce content-relevant responses. The main disadvantage of this type of learning is the learner is isolated and less social. At the same time, synchronous teaching is like face-to-face. It also happens through the same digital platform, but the learner should be online to access the media simultaneously.

- a. MOOCs (massive open online courses): unlimited in the number of participants, enabling them to learn asynchronously at their own pace.
- b. SMOCs (synchronous massive online courses): unlimited in the number of participants, in which students participate synchronously and in real-time.
- c. SPOCs (miniature private online courses) number of students is limited, learning asynchronously takes place.
- d. SSOCs (synchronous miniature online courses) number of students is limited, require participants to follow the lessons in real-time.

1.2 Glass Board

Lightboard is a part of the ultra-transparent glass that is edge light with LED strip lights. The lecturer writes on the light board with a neon marker. The light bounces throughout inside the glass till the light taps the neon marker writing and then exits the glass through the marker. This helps to protrude against the black backdrop. The light board can be used to teach notions that need calculations, diagrams, and formulas. Lightboard videos are very keen to make the least post-production.

Materials required for Light Board

- Diamond clear glass
- LED Strip lights
- Switch Mode Power Supply (SMPS)
- Neon markers
- Black drop
- Iron frame
- Bolts, washers, and wing nuts

One of the benefits of lightboard videos is that they are quick to film and require minimal post-production. However, as a minimum, you will need to flip the video 180° horizontally so that the viewer can read the writing for all post-production. The video needs to be flipped to 180° and crop the beginning and end of the video when the video needs to be flipped to 180° Crop the video's beginning and end when the lecturer entered and exited the shot from starting and stopping the camera.

3. Interdisciplinary Research– The way to a better and secure future

Nimisha Roy (IEEE Member, IIIT–Allahabad, IEEE U.P. Section)

We are living in times no one would have ever imagined. We saw how even the most developed economies crumbled under the wrath of COVID-19 given the unforeseen situation. Even after the vaccines being launched, we are far from the post-COVID era. If there was one thing this pandemic made us realize the most, it was that we desperately need to focus on research that is interdisciplinary in every possible sense. What I am trying to assert here is the point that every domain has some limitations that can be overcome by other scientific domains. What is needed is better communication between people working in all these domains. Emerging scientific domains like biosensors, nanotechnology, microfluidics, Bio-MEMS (Micro Electro Mechanical System) helped in conceptualizing some of the most innovative and elegant devices for detection and diagnosis of SARS-Cov-2.

These domains are highly interdisciplinary and involve the expertise of people from diverse backgrounds like electrical engineering, chemical engineering, electronics, molecular biology, cell biology, medical sciences, and material sciences. You can imagine how insightful as well as revolutionary results such research is capable of producing.

One technology worth mentioning here is the organ-on-chip technology which involves experts from the above-mentioned domains and beyond.

This technology was conceptualized at the Wyss Institute of Harvard University. Since then, a lot of research has been done on this technology across the globe. These are simply microfluidic 3D cell culture chips that mimic the microenvironment of human organs. It holds the promise of accelerating drug/vaccine development and eliminate inhumane animal testing. This could be a boon in situations such as a pandemic as a lot of time would be saved without questioning the efficacy of the drug/vaccine. Bio-MEMS and Nanotechnology lab, IIIT-A has been working on various aspects of this technology for quite some time, especially cost reduction. Although this technology is still in its infancy, we are working diligently with a hope to contribute our bit towards the society so that in case of future pandemics we don't have to see such soaring death rates.

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