



# **IEEE COMSOC, KOLKATA CHAPTER**

# ANNUAL REPORT 2021



### Part A – Administrative

Amidst the pandemic, IEEE COMSOC, Kolkata Chapter continued to have the Executive Committee meetings during the reporting year virtually through digital online platform. There were 04 meetings conducted in the year virtually with the following agendas:

- Discussion on conducting various professional activities including VDLs.
- Technical discussions on events to cover important and recent topics such as AI, Quantum Computing, Security, Cloud, 5G, 6G, Wifi 6 etc.
- Orientation Sessions for students on emerging technologies.
- Outreach activities and Membership Assembly.
- Connecting all student branch chapters for an inclusive and effective peer networking.
- Development of IEEE ComSoc Kolkata Chapter website.
- Nomination of SLATE-22 for IEEE COMSOC, Kolkata Section and accepted by the ExCom etc.

### **Total Number of Administrative meetings**

04

### Dates of the meetings

Meeting-1: Date: 02/01/2020 Meeting-2: Date: 13.02.2021 Meeting-3: Date: 15.05.2021 Meeting-4: Date: 13.11.2021

### Number of attendees:

All the members of the Executive Committee have attended the meetings.

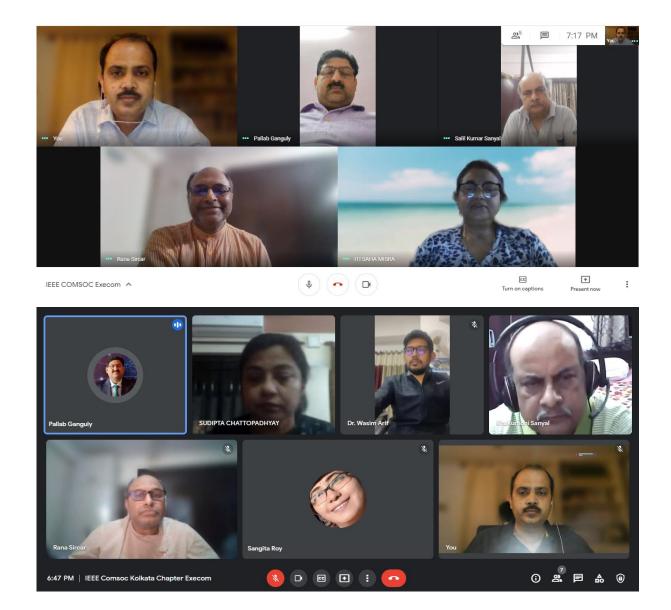
### Very short and precise description

The Executive Committee meetings were held to disclaim and plan various professional and social activities throughout the year. The meetings also addresses the current research and industry driven technical topics that are to be focussed during the year through various events.

The salient agendas of the meetings are:

- Student orientation program on Quantum computing and next generation Wifi 6<sup>th</sup> Generation
- New Website development and launch.
- VDL and Joint VDL organization.
- Mental well-being event organization.
- Associate with IEEE Hyderabad, Kerala, and Bangalore section for Joint GRATE 7 program for PhD and M.Tech Best thesis Awrad-21.
- Industry round table with the Govt of West Bengal
- Series of webinar in popular lecture series AI, Security, Cloud, 5G, 6G, Wifi 6
- IEEE Membership drive and networking.

### One picture of the meeting



### Annual General Membership Assembly when held:

15<sup>th</sup> November, 2021

## Part B – Student and Affinity Group Activities

### Name of the event:

International Conference on Advanced Communication Technologies and Signal Processing (IEEE ACTS – 2020 | Virtual Conference), 04-06 December, 2020

### Number of attendees:

250

### Very short and precise description:

2020 International Conference on Advanced Communication and Signal Processing (ACTS – 2020),(Virtual Conference) with Technical Co-Sponsorship by **IEEE Kolkata Section** was organized during **4-6 December**, **2020** hosted by Department of ECE, NIT Silchar in association with **IEEE ComSoc Kolkata NITS SBC** to promote the state of art and cutting edge research in the field of Communications and Signal Processing.

IEEE ACTS-2020 is technically supported by IEEE Communications Society Student Branch Chapter-NIT Silchar and financially sponsored by TEQIP-III. The distinguishing characteristic of IEEE ACTS-2020 is the promotion of advanced research and developments in the promising fields of Communication Technologies

and Signal Processing and provide a platform for academia and industry to bridge the gap between academic research, industry initiatives, and governmental policies.

This 3-day event included several keynote speeches by distinguished speakers from academia, industry and government sectors; panels forums; technical sessions featured technical papers extensively reviewed by peers; workshops focusing on the



latest trends in various technology; tutorials delivered by experts in respective disciplines.

There were 06 eminent speakers; Prof. Saswat Chakrabarti from IIT Kharagpur, Prof. Preetam Kumar from IIT Patna, Prof. Prabhat K. Upadhyay from IIT Indore, Prof. Ram Bilas Pachori from IIT Indore, Prof. Debarati Sen from IIT Kharagpur, Prof. Marceau Coupechoux from Telecom ParisTech Paris, France and last but not the least Prof. Peter Chong from Auckland University of Technology, Auckland, New Zealand.

The conference was inaugurated with the gracious presence of the Prof. Sivaji Bandyopadhyay, Director NIT Silchar, Prof. Saswat Chakrabarti from IIT Kharagpur, General Chair, Mr. Sanjay Kar Chowdhury, Chairman, IEEE Kolkata Section, Dr. Dragana S. Krstić, Faculty, University of Nis, Serbia and other distinguished

academicians and industrial personalities. The conference was hosted online with pre-recorded presentation of all the accepted papers. The acceptance ratio of IEEE ACTS-2020 is less than 30% as per the guidelines of the standard IEEE conference.

The theme of the conference was: **Connect, Sense and Bridge.** The keynote talks covered areas of Smart city in the light of 5G, 5G communication standards, MIMO communications, FBSE-EWT etc. There were three best papers and three special mentioned papers were awarded in the three tracks of the conference during the valedictory ceremony of the conference on 06 December, 2020.

There were more than 100 participants in the paper presentation which were chaired by renowned academicians from India and abroad, around 150 participants in various keynote sessions including students and researchers from various institutes across the globe.

The organizing committee expresses its thankfulness to IEEE Kolkata Section and IEEE ComSoc Kolkata Chapter for their support, guidance and motivation.



### Webinar on 5G Core Architecture and Use Cases

### Number of attendees

155

### Very short and precise description

IEEE ComSoc Kolkata Chapter in association with Narula Institute of Technology, Agarpara, Kolkata organised a very timely and informative webinar on '5G Core Architecture and Use Cases' on 20th February, 2021 at 7.00 P.M, in virtual mode due to the COVID-19 pandemic situation. Narula Institute of Technology is a leading Engineering & Management institute, located at Agarpara in West Bengal, approved by AICTE and affiliated to West Bengal University of Technology. The institute offers NBA accredited UG degree programmes in engineering in CSE, ECE, EE, CE, IT, EIE & ME, PG courses in CSE, ECE, VLSI & Micro Electronics, EE- Power System, CE- Structural Engineering, MBA, and MCA.

The date and time of the webinar was publicised through social media and circulated to various institutes for

participation. The program has started with inaugural speech by Head of the department ECE of the institute. The webinar was attended by some of the distinguished members such as Dr. J K Mandal, IETE Kolkata, Dr. J К Roy, IEEE CAS, Kolkata. Mr. Pallab Ganguly, IEEE ComSoc Chairman, Kolkata. Ms. Sangita Roy. The distinguhsed mebers delivered welcome address to the dignitaries and students respected participants and deliberated various aspects communication technology and its benefits to mankind in near future.

Mr. Pallab Ganguly delivered address to the participants and narrated the significance of webinars, and deliberated various activities of



ComSoc to encourage the young participants to pursue IEEE membership to rip the enormous benefit the society offers to the technologist, scientists and engineer in the world.

Dr. Sandhya Pattanayak, Convener IQAC Cell explained the importance of Professional body in academics. Mrs. Moupali Roy, IEEE CAS Executive body emphasised on the role of organising webinar during COVID-19 situation and expressed her gratitude to the organising members for hosting such webinar.

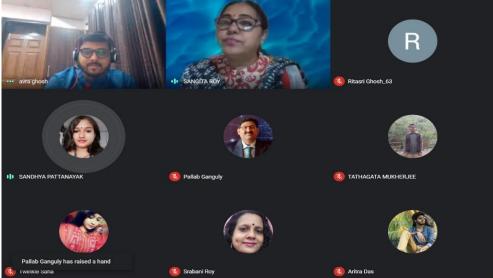
The event was glittered by speech from Mr. Avra Ghosh. Mr Avra Ghosh completed his BTech from Jalpaiguri Government Engineering College and MTech from ETCE Department Jadavpur University. He is currently in Ericsson India Global Services Pvt. Ltd as Senior Solution Integrator in Telecom domain and continuing ;

previously with IDEA Cellular Ltd as IN(Intelligent Networks) Engineer in Telecom. His achieved a very important position in hid cureent organization. He is IP Technology – Ericsson Certified, Python Certified from Vskills, recipient of Rock Star Award from Ericsson and Star Performer Award from Idea Cellular Ltd.

He pointed the importance of 5G in Indian technological scenario, and presented a comparative analysis with respect to the existing 4G world with statistical data. He also gave few examples of architecture and technology, industry, research areas in the field of 5G and beyond. Special Attraction of the webinar was current scenario of industry that were explained by various speakers during their talks.

There were around 125 student participants and 30 distinguished members from academia and industry in the webinar. The event ended with a vote of thanks presented by Mr. Sangita Roy, the active IEEE member of Kolkata Chapter. The meeting was attended by the following IEEE Members:Mr. Pallab Ganguly, IEEE ComSoc Chair, Prof.(Dr.) J K Mandal, Prof. (Dr.) J K Roy, Dr. Saradindu Panda, Dr. Anilesh Dey, Dr. Surajit Bari, Dr. Sandhya Pattanayak, Mr. Pranab Hazra, Mrs. Swati Barui, Mrs. Moupali Roy, Mrs. Sangita Roy, Mrs. Arpita Santra.





### Panel Discussion on "Mental wellbeing in the new normal"

### Number of attendees: 35

#### Very short and precise description

**IEEE WIE, Kolkata Section** in association with **IEEE Communication Society, Kolkata Chapter** had organised a panel discussion on *"Mental wellbeing in the new normal"* on **13th March**, 2021, Saturday from 4:00 - 5:30 pm IST. The talk was organised to provide all especially the students, both school and college and young professionals an avenue to understand the various aspects of professional and mental crisis created by the covid pandemic.

**Prof. Sushmita Mitra**, Professor, Machine Intelligence Unit, Indian Statistical Institute, Kolkata and Chair, IEEE Kolkata Section, **Mr. Debasis Kanungo**, Consulting Partner, Workforce Analytics Analytics & Insights, TATA CONSULTANCY SERVICES and **Dr. Aratrika Sen**, MD, Psychiatry, Department of Psychiatry, Murshidabad Medical College and Hospital were the panelists of the event. **Ms. Sudeshna Mukhopadhyay**, Independent Lighting Advisor was the moderator.

Prof. Mitra addressed the aspects of mental well-being for people in the academic environment. She touched upon the issues faced by school children, college students, teachers in both the schools and colleges especially the hurdles created by financial, age and technological divide on the path to equitable access/ dissemination of knowledge. The facets of mental well being in the industrial domain were lucidly brought to the fore by Mr. Kanungo. Dr. Sen had touched upon the issues and tools and techniques of mental wellness of all in this time of pandemic. The highly experienced Ms. Mukhopadhyay moderated the session beautifully.

The event was highly relevant and well planned. The memento gifted also points to the thoughtfulness of the organizers. **Certificates of trees** planted in the names of the Panelists and Moderator in the Sundarbans, largest mangrove forests in the world were mailed to them. The event saw enthusiastic participation from its target audience. The plethora of questions received at the end of the session clearly demonstrated the success of the event.



### Tech Talk on Quantum Technologies: Revolutionizing future

Number of attendees 55

Very short and precise description

IEEE ComSoc NIT Silchar Student Branch Chapter in association with IEEE ComSoc Kolkata Chapter organized a Tech-Talk webinar on "Quantum Technologies: Revolutionizing Future" on 19 April, 2021 from 4:00 pm onwards.

Mr. Rana Pratap Sircar, the Research Leader in Ericsson Research was the resource person and speaker of the webinar who has enormous experience driving Research around Cloud Stack Optimization and Quantum Program. research interests are around Edge computing, Networks, Cyber-Physical Systems & Quantum technologies. He been Guest Faculty for Cyber Physical Systems at IIT Delhi.He has contributed IRTF and IETF. He is Masters in Optoelectronics and Optical Communications from IIT Delhi and Masters in Physics from IIT Delhi as well. The event started at 4:00pm with a welcome note from Dr. Wasim Arif, Faculty Adviser, IEEE NIT Silchar SBC to the participants. Dr. Arif invited Prof. Fazal Ahmed Talukdar, Branch Counselor, IEEE NIT Silchar SBC for a welcome note where Prof. Talukdar has welcome the expert and set up the

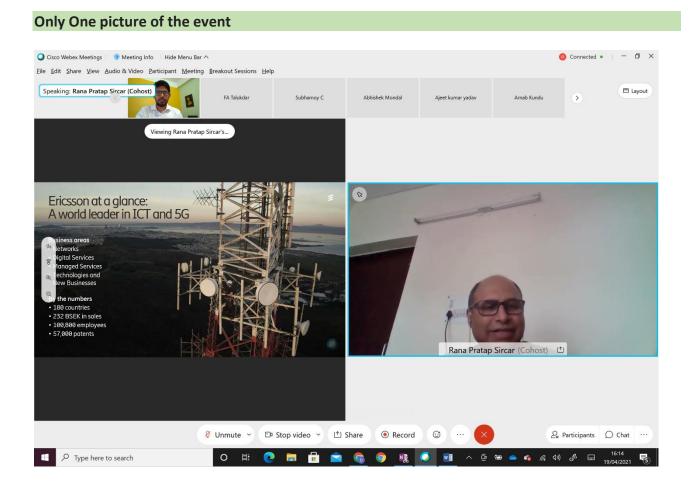


session with a short orientation of quantum technologies and its impact in the society.

In his talk Mr. Rana narrated the significance of quantum technologies in the present perspective and briefly explained the genesis of the technology in its present form. He delivered various architectures that the industries are currently working on and the opportunities for students and scholars to innovate. He also narrated various protocols and architecture for quantum communication, and wonderfully explained the scope of innovation and research for students with discussion on various application of Quantum Communications. He also discussed about the scope of various interdisciplinary collaboration between electronics, material science, chemistry, medical science, medicines and computer science is highly required for the technology and its advancements. The applications, algorithms, materials, encryption etc are presented in the webinar.

The webinar was followed by an interactive question answer session where the participants have interacted with the speaker.

The event was attended by faculty, students and research scholars of the institute. The webinar was very successful and all the participants have taken away some important knowledge of Quantum Technologies, present industry requirements and future prospective. The webinar was ended by a vote of thanks by the faculty adviser.



### **3rd IEEE ComSoc India GRADUATE CONGRESS: GraTE'7'**

Number of attendees 70

### Very short and precise description

IEEE Communication Society (ComSoc) Hyderabad jointly with ComSoc Kolkata Chapter, Kerala Chapter and Bangalore Chapter organized GRADUATE CONGRESS: GraTE'7' 2021 edition on 22 may, 2021 virtually hosted by IIIT Hyderabad. In this congress, graduated students all students who graduated (Final thesis defense/viva completed) in 2020 submitted the synopsis and other details for a chance to be recognized as the best thesis work and be awarded handsome cash prize. The sort listed graduates were asked to present their work to the audience and panelists. The presentation time for each would be strictly 7 minutes. Based on the work quality and other details, 3 best ME/MTech/MS/ thesis and 4 best PhD theses (total great 7) was awarded. The award will carry 20,000/- INR for each PhD and 15,000/- INR for each MS/ME/MTech and Certificate of recognition. The certificate were also given to corresponding Supervisor/Co-Supervisor in recognition as the best supervisor/Co-supervisor of the year.

The congress for this year is planned on **01 May 2021 in Virtual Mode coordinated by ComSoc Hyderabad.** All eligible graduated students of 2020 whose awardee institution belongs to any of these 3 states (Andhra Pradesh, Karnataka and Kerala) were eligible to submit their synopsis and compete to win the best thesis work recognition.

The eminent panelist from IEEE ComSoc Hyderabad, Kolkata, Kerala and Bangalore Chapter have evaluated the thesis followed by a presentation and subsequent question and answer virtually through an online platform. After rigorous evaluation finally 03 Ph.D and 02 M.Tech thesis were awarded as winners for the GraTE-21.

The prize money for the awards were equally shared by the four chapters.

Winners of the Best Thesis Award

PhD Category (3 winners)

Dr Ashok Bansiwal	Equivalent Circuit Analyses and Methods to Enhance Bandwidth of Klystron Reentrant Cavities	Indian Institute of Science (IISc), Bangalore, Karnataka-560012
Dr Yoghitha	Resource Allocation in Cellular Networks with Base	Indian Institute of Technology
Ramamoorthi	Station Sleeping	Hyderabad

Dr. Poornima S	Transmit Power Adaptation for Enhancing the Performance of Wireless Multi-hop Half/Full Duplex Underlay Cognitive Relay Networks	National Institute of Technology Calicut, Kerala, India

### M Tech Category (2 winners)

Reshma K	Incremental Relaying for Cooperative Non-Orthogonal Multiple Access (NOMA) System : Performance Analysis and Optimization	NIT Calicut
Tirumalasetty Sri Sai Apoorva	Design of Multiband Millimeter Wave Array Antenna for 5G Communications	Amrita Vishwa Vidyapeetham, Bengaluru Campus, Kasavanahalli, Carmelaram P.O. Bengaluru – 560 035 Karnataka

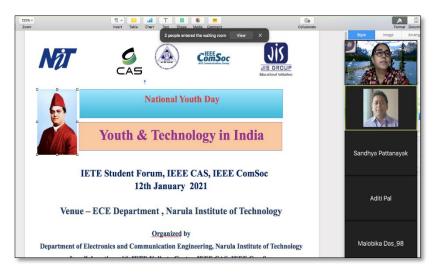
### **Celebration of National Youth Day: Youth and Technology in India**

### Number of attendees 165

### Very short and precise description

We are delighted to have organised a wonderful and memorable **National Youth Day** (**Youth and Technology in India**) on 12th January, 2021 at 4.00 P.M, Narula Institute of Technology, Agarpara, Kolkata in virtual mode due to this COVID-19 pandemic situation. The date and time of the meet was informed and publicized through social media and beforehand preparations were made for the success of the meet. **National Youth Day** is celebrated on 12 January being the birthday of Swami Vivekananda. In 1984 the Government of India declared this day as National Youth Day and since 1985 the event is celebrated in India every year. Swami Vivekananda is the One of the Most Famous Philosophers or Monks in the World.

The gala event was started with inaugural speech by Head,ECE Department. The program was started at 4.00 PM with registration at 3.45 P.M. Inaugural address was given by Prof. (Dr.) M R Kanjilal followed by Dr. J K Mandal, IETE Kolkata, and Dr. J K Roy, IEEE CAS, Kolkata. Ms.Sangita Roy and Ms. Arpita Santra who have delivered welcome address



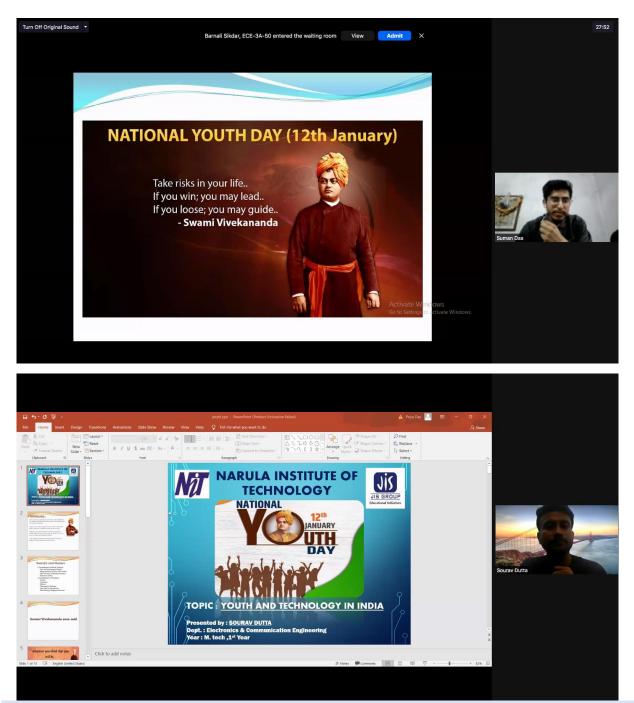
to the respected dignitaries and students present. The event was glittered by speech from Mr. Suman Das, and Mr. Sourav Dutta, M-Tech, ECE, NiT. They pointed the importance of youth in Indian technological scenario, and comparative analysis with respect to world statistics. They also gave a few examples of youth in technology, industry, research area and they made India proud in international aspect.

**Special Attraction of the webinar was live** streaming from Dumurjala Stadium, Howrah where young **cricketers were practicing cricket. This streaming was done by Mrs. Arpita Santra.** 

Dr. S Pattanayak, Mr. Bholanath Pal, Mrs. S Das Roy of ECE Department inspired students with their speech. Mr. P Ganguly, IEEE ComSoc Chair presented in the webinar and he pointed out the

importance of Swami Vivakanda in modern time and youth awareness. The program ended with a vote of thanks to chair by Mrs. Sangita Roy and Mrs. Arpita Santra.

Among other distinguished members, IEEE Members Mr. Pallab Ganguly, IEEE ComSoc Chair, Prof.(Dr.) J K Mandal , Prof. (Dr.) J K Roy, Dr. Saradindu Panda, Dr. Anilesh Dey, Dr. Surajit Bari, Dr. Sandhya Pattanayak, Mr. Pranab Hazra, Mrs. Swati Barui, Mrs. Moupali Roy, Mrs. Sangita Roy were present in the webinar.



Webinar on "Quantum Technology: Revolutionizing Future

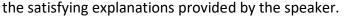
### Number of attendees

184

Very short and precise description:

The Department of ECE, Techno Main Salt Lake in association with IEEE ComSoc, Kolkata Chapter conducted the webinar on **"Quantum Technology: Revolutionizing Future"** on 19th June 2021. Prof. Dr. Avijit Kar, Director, TMSL inaugurated the webinar with his motivational speech and then Prof. Soumitra Sasmal, Registrar, TMSL delivered a welcome note greeting the esteemed speaker

Mr. Rana Pratap Sircar, Research Leader, Ericsson, Mr. ComSoc Pallab Ganguly, Chairman, IEEE ComSoc and other dignitaries and participants present in the webinar session. Mr. Pallab Ganguly, Chairman, IEEE ComSoc enlightened the participants the current direction and scope of the chapter. Next, Mr. Rana Pratap Sircar, Research Leader, Ericsson gave a vivid outlook of basic as well as emerging ideas of the Quantum Technology and also elaborated the future prospects of the promising technology in connection with different engineering disciplines. Participants raised many relevant questions during question answer session different aspects of the futuristic regarding technology and job-opportunities related to the knowledge of such technology. All the queries had been addressed by the respected speaker in an elaborated manner and the participants are elated by



Our respected Principal Sir, is thankful for the valuable

inputs delivered by Mr. Rana Pratap Sircar, and he is appreciative of the commendable efforts taken by the ECE department and IEEE ComSoc Chapter for arranging such a knowledgeable and informative session. Finally, our beloved HoD Ma'am, Prof. Dr. Arpita Chakraborty of ECE department expressed her gratitude towards the Management of TMSL and IEEE ComSoc Chapter for their constant support and encouragement to organize such enriching sessions. She further thanked Mr. Rana Pratap Sircar and Mr. Pallab Ganguly for their exemplary efforts in providing such platforms to be aware of the state-of-art technologies that help the students to reach great heights of success.

At the end of the webinar, participants have attended a quiz session in MCQ mode. Finally, the feedback about the webinar was collected from all the participants to get the suggestions regarding the possible pathways to improve the sessions that will be conducted in the near future. The feedback was very encouraging as most of the participants have acknowledged the expertise and the content delivered by the expert.



**CONTACT PERSON** :

9433611355

**REGISTRATION LINK** 

https://forms.gle/yXWTcep5LfhSdFdG8

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Prof. TUKTUKI RAKSHIT GHOSH Prof. MOUMITA SENGUPTA

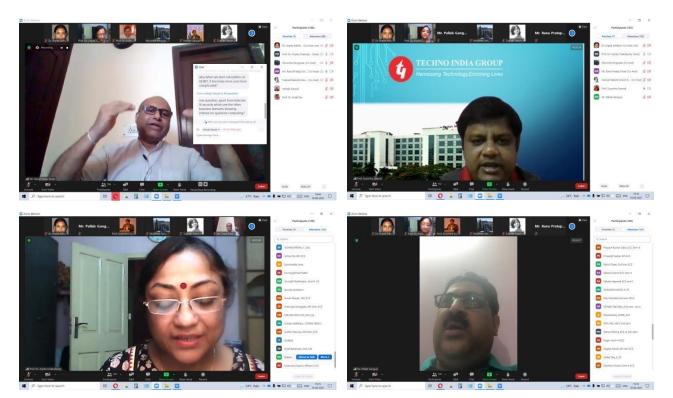
19TH JUNE '21 3PM ONWARDS

Prof. ARPITA ADHIKARI

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18 |IEEE ComSoc Kolkata Chapter-Annual Report-2021

Alongwith the estimated speaker other panellists were Mr. Pallab Ganguly, Chairman, IEEE ComSoc, Mr. Indrajit Sanyal, Director and Head of SDU Cloud & NFVI, Ericsson Prof. Dr. Avijit Kar, Director, TMSL, Prof. Soumitra Sasmal, Registrar, TMSL, Prof. Dr. Arpita Chakraborty, HoD, ECE, TMSL Prof. Tuktuki Rakshit, Assistant Professor, TMSL Prof. Moumita Sengupta, Assistant Professor, TMSL Dr. Arpita Adhikari, Assistant Professor, TMSL.



# Webinar on Cloud Summit on Security Threat Landscape-The Defence Forces and Law Enforcement Approach

# Number of attendees 184

### Very short and precise description

IEEE Kolkata Section in association with APAC has conducted a Cloud Summit on Emerging Security Threat Landscape-The Defence Forces and Law Enforcement Approach on 7-8 October, 2021.

The Chair IEEE Kolkata ComSoc Chapter has delivered a keynote talk on security management and grid security issues of the present situation. He also narrated about the various forthcoming challenges cyber security issues that are very challenging for the network grid for а sustainable and reliable future.



Apart from him, the other speakers were, Mr. Kanish Gaur, Founder, India Future Foundation, Quashr Khalid, IAS, Commisioner of Police Railways, Mumbai, , Ravi P. V. Burlagadda, Sr. V P Information Security, Jio Platforms Ltd., Mohit Gupta, Group Chief Information Security Officer, Samvardhana Motherson Int. Ltd., and Dr. Pavan Duggal Advocate, SCI, Mr. Naseem Halder, Chief Information Security Officer, Acko and Mr. Sandeep Padam, Information Security, Lowe's India who have delivered expert lecture on various issues related to cloud security, grid security etc.



20 | IEEE ComSoc Kolkata Chapter-Annual Report-2021

### Part C – Professional Activities

Total number of professional lectures/ seminars/ workshops /technical activities 05

### Name of the event:

National Webinar on Safety of Power utilities from Cyber Attack

### Number of attendees 90

### Very short and precise description

IEEE ComSoc Kolkata Chapter in association with Infosec foundation on 27.08.2021 organised a webinar and panel discussion on "**Safety of Power utilities from Cyber Attack**". InfoSec foundation, a non-profit platform dedicated to cyber security and working on a collaborative framework to blend users, manufacturers, police, government, providers, policy makers, law and law enforcement,

prosecution and other respective stakeholders. The mission of the foundation is to create awareness to help achieve cyber safe future for enterprise customers & citizens. Many distinguished speakers delivered their talk / shared an insight on the topic. The Guest of Honor, Shri Hari Kishore Kusumakar, IPS (West Bengal 1998) presently IGP posted as (Personnel); Kolkata Police who has established National Digital Crime Resource & Training Centre (NDCRTC) in SVP National Police Academy in association with CDAC Hyderabad was also present in the meeting.



**The chief guest, Sanjay Prasad**, CIO, RPSG CESC Power Group stated that US reported a damage totalling to \$6 trillion USD due to cybercrime. He named a few recent cyber-attacks such as colonial pipeline where the hack took down the largest fuel pipeline in the U.S. and led to shortages across the East Coast because of a single compromised password. He talked about the challenges of maintaining cyber security.

**Mr. Sanjay Kumar Das,** a career bureaucrat for 24 years in the West Bengal Civil Service (Executive) cadre who had earlier served as an Intelligence Officer for 4 years, talked about keeping an eye on Operational Technology. He mentioned that a cyber-attack that successfully targets an OT system

could result in devastating physical consequences to such things as critical infrastructure and services, the environment, and even human life.

A panel discussion was held where several moderators and panellists were present. Here, the panellists shared about Operational Technology (OT) versus Information Technology (IT) : Differences, Similarities and How the intermix with industrial control systems. Operational Technology (OT) refers to the hardware and software used to change, monitor, or control physical devices, processes and events within a company or organization.

**E. Sivaram** and **Yogesh Khairnar** addressed queries about how to intermix OT and IT with Industrial Control Systems. Several queries like the exchange of OT to IT, the protocol used in OT etc. have been addressed. **Mr. David Jeremy** from Meghalaya talked about OpenVMS which a multitasking and multiprocessing operating system based on VMS. **Mr. Yogesh Khairnar** has talked about smart metering which allows utilities to get a remote and instant reading of the electronic meters used for Electricity power consumption. Despite all the advantages presented by the smart metering system, there are always some challenges to be faced, such as security and communication. **Mr. Rajesh Gupta** from Jabalpur shared a presentation on State Load Despatch Centre (SLDC). He highlighted the main functions of the Madhya Pradesh SLDC, which are: Optimum scheduling and despatch of electricity within the state, real time grid operations in the state, economic despatch of electricity, outage planning of transmission elements etc.

The event was very successful and all the participants have expressed their wholehearted appreciation for the amount of information and real time case studies the webinar has been able to deliver through various experts. The distinguished speakers also expressed their gratitude to the organizers, IEEE ComSoc Kolkata Chapter and Infosec foundation for organising such meaningful webinar in spite of the crisis situation.



22 |IEEE ComSoc Kolkata Chapter-Annual Report-2021

### IEEE ComSoc VDL on Mobile edge computing for 5G-and-beyond Speaker: Professor Kaibin Huang (The University of Hong Kong)

### Number of attendees

49

### Very short and precise description

The IEEE ComSoc Kokata Chapter in association with IEEE ComSoc New Zealand Noprth/South/Central, New Zealand North Section and Kerala Section jointly organised the VDL of Prof. Kaibin Huang from the Dept. of Electrical and Electronic Engineering, The University of Hong Kong.

The VDL started at the schedule time 4:00 PM (NZ time), 9:30 am (IST) and Prof. Nurul Sarkar, *PhD, SMIEEE (ComSoc), Fellow ITU-UUM,* Chairman, IEEE Joint NZ North, South, Central ComSoc Chapter, Associate Professor and Academic Advisor (Networks and Cybersecurity), Department of Computer Science and Software Engineering, School of Engineering, Computer and Mathematical Sciences,

Auckland University of Technology, New Zealand have welcome the distinguished speaker and members present in the VDL. In his welcome address Prof. Nurul Sarkar has briefed about the VDL and narrated the significance of the mobile edge commuting in the light of 5G and beyond. He then welcome Prof. Huang with a short introduction.

In his talk Prof. Huang introduced a 5G paradigm in



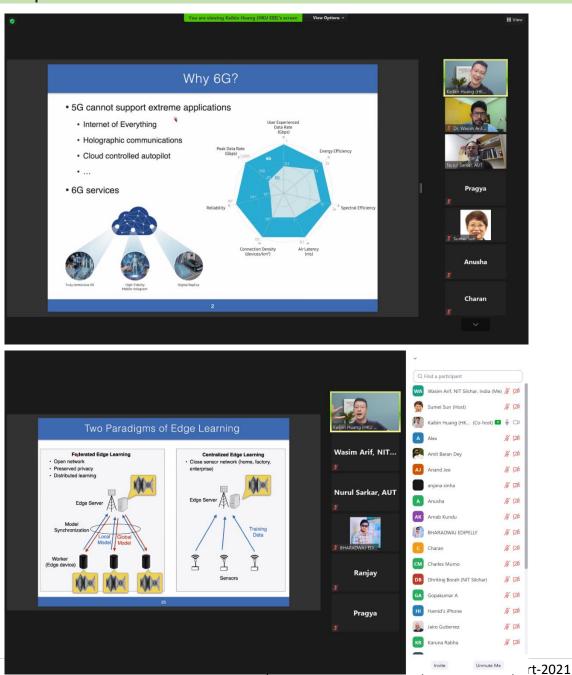
communication and computing, called mobile edge computing (MEC), and discussed how it serves as a platform for realizing edge intelligence. HE explained in detail the fundamental feature of MEC and told that it is to push mobile computing, AI, control, and storage to the network edge (e.g., servers near base stations and access points) so as to enable intelligent, computation-intensive, and latencycritical applications at the resource-limited mobile devices.

The talk was followed by a Q&A session where the participants have interacted with Prof. Huang. Prof. Huang has responded to all the queries brilliantly and also explore some promising opportunities for 5G and beyond applications.

Dr. Wasim Arif, Faculty adviser of IEEE ComSoc NIT Silchar Student Branch Chapter and Ex-Com Member has interacted with the speaker regarding CRAN, penetration of UAV in B5G and 6G and network virtualization, and finally presented a formal vote of thanks.

There were around 40 participants from various parts of the world including faculty, industry personnel, IEEE ComSoc Kolkata Members, SBC student members and research scholars who are pursuing their research in the allied domain of mobile edge commuting for 5G and beyond applications. The enthusiasm of the participants in interacting with the speaker was amazing and was the testimony of success of the event. All the participants have expressed their satisfaction on the content delivered by Prof. Huang.

**Bio:** Kaibin Huang received the B.Eng. and M.Eng. degrees from the National University of Singapore, and the Ph.D. degree from The University of Texas at Austin, all in electrical engineering. Presently, he is an associate professor in the Dept. of Electrical and Electronic Engineering at The University of Hong Kong, Hong Kong. He is an Executive Editor for IEEE Transactions on Wireless Communications, an Associate Editor for Journal on Selected Areas in Communications (JSAC), and an Area Editor for IEEE Transactions on Green Communications and Networking. He is an IEEE Fellow and an IEEE Distinguished Lecturer of both the IEEE Communications and Vehicular Technology Societies



# IEEE ComSoc VDL talk "Connecting Space Assets to the Internet: Challenges and Solutions"

Number of attendees 184

### Very short and precise description

The NY ComSoc chapter in association with IEEE ComSoc Kolkata Chapter and others have hosted a Virtual Distinguished Lecturer (VDL) talk on Oct 29, 2021. The presentation was on "Connecting Space Assets to the Internet: Challenges and Solutions ", by Prof. Mohammed Atiquzzaman, with a ComSoc session number 02136. The NY Chapter has released the recorded presentation video and slides on the chapter website (https://ny.chapters.comsoc.org/).

The Abstract of the talk may be found as below:

Data communications between Earth and spacecrafts, such as satellites, have traditionally been carried out through dedicated links. Shared links using Internet Protocol-based communication offers a number of advantages over dedicated links. The movement of spacecrafts however gives rise to mobility management issues.

The talk discussed various mobility management solutions for extending the Internet connection to spacecrafts. The talk provided an overview of the network layer based solution being developed by the Internet Engineering Task Force and compared with the transport layer based solution that have been developed at University of Oklahoma in conjunction with the National Aeronautics and Space Administration. Network in motion is an extension of the host mobility protocols for managing the mobility of networks which are in motion, such as those in airplanes and trains. The application of networks in motion was illustrated for both terrestrial and space environment.

According to a post-event survey, from 93 responses there are 83 non-members attended the VDL talk. If the ratio stays the same, among 184 attendees, there could 164 non-members and 20 members.

### Speaker Bio

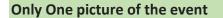
Mohammed Atiquzzaman obtained his M.S. and Ph.D. in Electrical Engineering and Electronics from the University of Manchester (UK) in 1984 and 1987, respectively. He currently holds the Edith J Kinney Gaylord Presidential professorship in the School of Computer Science at the University of Oklahoma.

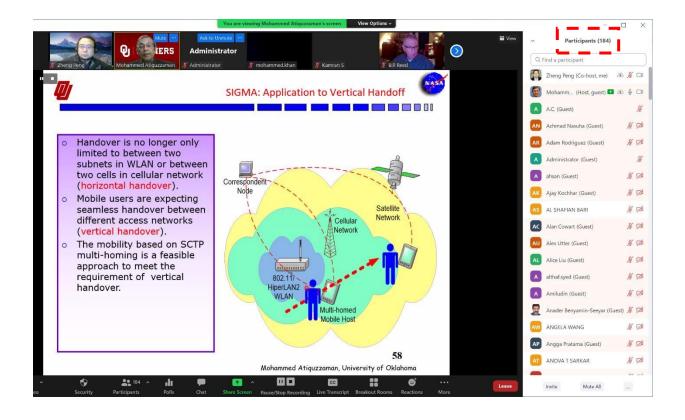
Dr. Atiquzzaman is the Editor-in-Chief of Journal of Networks and Computer Applications, the founding Editor-in-Chief of Vehicular Communications, and serves/served on the editorial boards of many journals including IEEE Communications Magazine, Real Time Imaging

Journal, International Journal of Communication Networks and Distributed Systems and Journal of Sensor Networks and International Journal of Communication Systems. He cochaired the IEEE High Performance Switching and Routing Symposium (2003, 2011), IEEE Globecom and ICC (2014, 2012, 2010, 2009, 2007, 2006), IEEE VTC (2013) and the SPIE Quality of Service over Next Generation Data Networks conferences (2001, 2002, 2003). He was the panels co-chair of INFOCOM'05, and is/has been in the program committee of many conferences such as INFOCOM, Globecom, ICCCN, ICCIT, Local Computer Networks, and serves on the review panels at the National Science Foundation.

Dr. Atiquzzaman received IEEE Communication Society's Fred W. Ellersick Prize, IEEE Distinguished Technical Achievement Award, IEEE Satellite Communications Technical Contribution Award, and NASA Group Achievement Award for "outstanding work to further NASA Glenn Research Center's effort in the area of Advanced Communications/Air Traffic Management's Fiber Optic Signal Distribution for Aeronautical Communications" project. He is the co-author of the book "Performance of TCP/IP over ATM networks" and has over 350 refereed publications, available at www.cs.ou.edu/~atiq.

His current research interests are in areas of transport protocols, wireless and mobile networks, ad hoc networks, satellite networks, power-aware networking, and optical communications. His research has been funded by National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), U.S. Air Force, Cisco, Honeywell, Oklahoma Department of Transportation and Oklahoma Highway Safety Office.





# IEEE ComSoc VDL talk "Connecting Space Assets to the Internet: Challenges and Solutions"

Number of attendees 55

### Very short and precise description

The IEEE ComSoc Kokata Chapter in association with IEEE ComSoc NIT Silchar SBC have organised the VDL of Prof. Sudhir Dixit, a IEEE Life Fellow, and Evangelist of basic Internet Foundation Norway on What comes next? Is there a need for a new generation after 5G' on Sep 8, 2021.

The event started at 8:00 PM IST with a welcome note from the faculty adviser of ComSoc NITS SBC and Coordinator Dr. Wasim Arif. He has briefed about the importance of the VDL to all the participants. Thereafter, Prof. Fazal Ahmed Talukdar, the Branch Councillor welcomes the distinguished speaker followed by the introduction of the speaker by the branch adviser.

In his talk Dr. Dixit was briefing about the requirement of generation next communication technology and narrated the future of evolution towards 6G. He briefed about the IEEE future network strategies and deliberated the road map for going beyond 5G. He



mentioned about the technology enablers of the envisioned 6G are going to AI/ML, THz communication, FSO etc. In his talk he mentioned about the IEEE INRG's vision of 6G and beyond. He also explained the Finland ^G program that are taken up with various use cases to deliberate the advancements in 6G research. At the concluding part of his talk he narrated the various challenges for network 2030 that are emerging as the current research topics for the scientific community.

The most striking component that he delivered in his talk was the requirement of wireless technology to meet the pertinent demand of UN's SDGs. He briefed that the next generation of communication technology should be oriented towards avchieving the sustainable development goals of the UN collevctively in order to have a better future.

The talk was followed by some interactive session where the expert responded to some queries of the participants. Dr. Arif has expressed sincere thankfulness to the VDL Speaker for delivering such a meaningful topic and deliberate to collaborate with the speaker in various aspects of future wirelesss networks.

#### Speaker's Bio:

Dr. Sudhir Dixit is currently a Senior Fellow and Evangelist of Basic Internet at the Basic Internet Foundation in Norway and heads its San Francisco office. He has over 30 years of experience in computer networking and telecommunications, and related fields. From 2015 to 2017 he was the CEO and Co-Founder of a start-up, Skydoot, Inc, in the cloud-based and collaboration space. From December 2013 to April 2015, he was a Distinguished Chief Technologist and CTO of the Communications and Media Services for the Americas Region of Hewlett-Packard Enterprise Services in Palo Alto, CA, and prior to this he was the Director of Hewlett-Packard Labs India from September 2009. Prior to joining HP Labs Palo Alto, Dixit held a joint appointment with the Centre for Internet Excellence (CiE) and the Centre for Wireless Communications (CWC) at the University of Oulu, Finland. From 1996 to 2008, he held various positions with leading companies, such as with BlackBerry as Senior Director, with Nokia and Nokia Siemens Networks in the United States as Senior Research Manager, Nokia Research Fellow, Head of Nokia Research Centre (Boston), and Head of Network Technology (USA). From 1987 to 1996, he was at NYNEX Science and Technology and GTE Laboratories (both now Verizon Communications) as a Staff Director and Principal Research Scientist.

Dixit has 21 patents granted by the US PTO and has published over 200 papers and edited, co-edited, or authored eight books published by Wiley, Artech House and Springer. He is presently on the editorial boards of IEEE Spectrum Magazine, Cambridge University Press Wireless Series and Springer's Wireless Personal Communications Journal and Central European Journal of Computer Science (CEJS). He is Chairman of the Working Group C on new directions in networking and communications at the Wireless World Research Forum (WWRF), where he is also a Board Member. From 2010 to 2012, he was an Adjunct Professor of Computer Science at the University of California, Davis, and, since 2010, he has been a Docent of Broadband Mobile Communications for Emerging Economies at the University of Oulu, Finland.

A Life Fellow of the IEEE, IET, and IETE, Dixit received a Ph.D. degree in electronic science and telecommunications from the University of Strathclyde, Glasgow, U.K. and an M.B.A. from the Florida Institute of Technology, Melbourne, Florida.



Orientation program on Quantum Computing: An emerging Specialization for Aspiring Physicists and Mathematicians.

Number of attendees 85

### Very short and precise description:

School of Science and Technology (SST), The Neotia University (<u>TNU</u>) has organized an Orientation Program on "Quantum Computing: An Emerging Specialization for aspiring Physicists and Mathematicians" in association with IEEE ComSoc and Anandabazar Patrika Education (ABP EDU) as the Digital Media Partner of the program for the students, faculty, industry and research community.

The event had eminent speakers who are working on the field of quantum computing to deliver expert lectures on various aspects of this futuristic field of study.

The program have started at 5.00pm on 17th April 2021 (Saturday) in a virtual mode. In his

inaugural talk Prof. Susanta Mitra, PhD, Chair, Organizing committee, Pro-Vice Chancellor, The Neotia University welcome the delegates and participants. He briefly set up the importance of the workshop on a very timely topic of futuristic importance. In his welcome address Prof. Biswajit Ghosh, DSc, Hon'ble Vice Chancellor, The Neotia University welcome all the delegates and participants, and narrated various aspects of quantum computing and its application for future.



Mr. Pallab Ganguly, Chairman, IEEE - COMSOC, Kolkata Chapter, have thanked the organiser for organizing such event and expressed his views about the quantum technology and its impact to society and scientific community for growth in future.

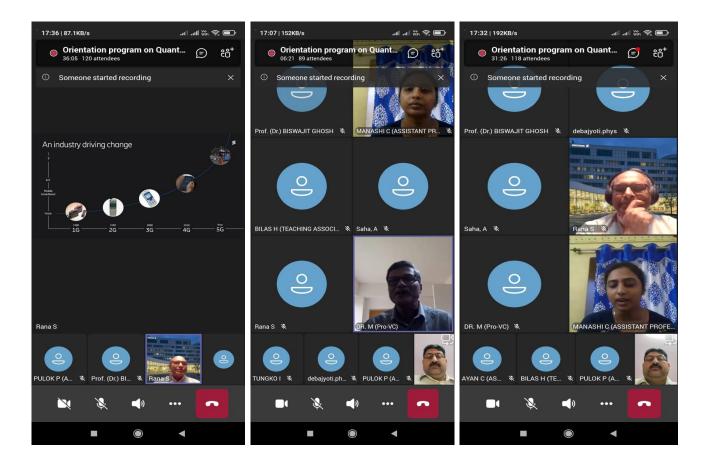
Mr. Rana Pratap Sircar, Research Leader, Cloud Systems & Platforms, Research, Ericsson delivered a talk on Beyond Moore's law – a career in Quantum Computing. He deliberated about various current research that the leading industries are involved into and deeply engaged to enable quantum technology for future.

Mr. Amit Saha, Consultant & Atos Scientific, Expert, Atos has delivered a talk on Introduction to Quantum Algorithms and Its Industry Prospect. He explained some important algorithms that enable quantum technologies and mentioned about their role in the industry. He said that the future is going to be led by such quantum technologies and shall explore various other technology evolution around it.

Mr. Saikat Basu, Associate Consultant & Atos, Scientific Expert (Advanced Computing) have delivered a talk on 'Implementation of Quantum Algorithms and corresponding Challenges, where he has explained various procedures about quantum technology implementation. Thereafter he narrated various challenges related to effective implementation of the algorithms. He narrated that each challenge has opened new research avenues and there are lot of scopes in the field of quantum technologies starting from academic research to industry implementation.

Dr. Kalyanashis De has proposed a formal vote of thanks followed by the closure remark by Prof. Susanta Mitra.

There were more than 60 student participants and 25 faculty participants in the event.



### INFOCOM 2021 VIRTUAL CONFERENCE – The 20th Edition December 1-4, 2021 | Theme: Accelerating Digital

Number of attendees 1000

### Very short and precise description

INFOCOM, an initiative which was initiated in the year 2002, as a forum for one of the largest congregations of technology professionals, corporate leaders, academics, visionaries, and policymakers will be stepping into its 20th edition in a virtual format.

This year, INFOCOM, the flagship B2B conference of ABP Group, is being held from December 1-4, 2021, acting as a convergence of the best global minds in Technology, Business Strategy and Leadership.

Department of IT and Electronics,

Government of West



Bengal and Webel are partnering with INFOCOM 2021 as the Host State.

This year, the focal theme of INFOCOM is "ACCELERATING DIGITAL". As the world emerges from the impact of the pandemic, the digital transformation journey also gets into a faster track. The pandemic forced organizations to adopt new technologies and find new ways of working at a rapid speed. These rapid digital transformations may

have been reactive to the changing situations, but have pushed us into the fast-paced era of the Digital Revolution. To compete in the new normal; we need to move to a mind-set of Accelerating Digital. The economic scenario continues to bring in new challenges with fresh waves of outbreak. Businesses whose behaviour has been reactive to the pandemic could still be in the downturn mind-set when the upturn finally arrives, and miss the opportunity to rebuild for profitability. Organisations need to strategise to capitalize on new opportunities. This emphasizes the need of accelerated digital transformations even further.

INFOCOM 2021 virtual conference provided a platform for various industry stalwarts and leaders to talk about the various strategies that organizations are adopting in "Accelerating Digital", the theme for this year. The virtual conference aimed to unite the world in pursuit of digital transformation in every field of business and all aspects of life. We heared the success stories, the new hurdles and opportunities and the lessons that we must learn to prepare for the challenging times in the future.

The event has bring together over 1000 delegates from large Corporates, IT, SMEs and Government with 60+ Speakers from Business, IT, Government and SMEs and 25+ Sessions. There were participation from leaders from India, Bangladesh, Sri Lanka, Nepal, Bhutan and other SAARC Countries.

Focus areas at the Conference

- Strategy & Leadership
- Technology & Digital Future
- Healthcare
- Education
- Entrepreneurship, Indian Unicorns & Startups
- Media & Entertainment
- Gaming
- SAARC Opportunities
- CIO Panel Digital Roadmap
- CISO & IT Security Panel Cyber Security priorities

The INFOCOM -2021 was Inaugurated by by Chief Guest, Ms. MAMATA BANERJEE, Hon'ble Chief Minister of West Bengal, Guest of Honour: Dr. Partha Chatterjee,



Hon'ble Minister for IT & Electronics; Industry, Commerce & Enterprises; and Parliamentary Affairs, Govt. of West Bengal. The Padma Shri Awardees Sanjeev Bikhchandani (Padma Shri 2020), Founder and Executive Vice Chairman, Info Edge India Ltd., S P Kothari (Padma Shri 2020), Gordon Y Billard Professor of Accounting and Finance, MIT Sloan School of Management, Cambridge, MA, USA were invited in the event. Radical Innovators and Digital Experts Peter Hinssen, Digital Entrepreneur and Keynote Speaker, Executive Lecturer at London Business School & MIT Sloan School of Management, Pascal Coppens, Technology Entrepreneur, Sinologist and Author of "China's New Normal – How China

sets the standard for innovation", Belgium were among the distingushied speakers. There were eminent IT Leaders and Experts who have delivered various insights about digitalization, future directions of technology driven society and economy during the three days of the conference.

There was panel discussion for SAARC where delegates from Bangladesh, Nepal, Pakistan, Sri Lanka were present. Apart from these there were eminent educationalists from various reputed institutions in the world who have shared their ideas and views to bring a sustainable change for future, prominent actors, journalists and media personalities were also part of th event.

Infocom-2021 was hosted by Dept. of IT & Electronics, Govt. of West Bengal and Webel with and Association Partners were SAARC Chamber of Commerce and Industries, NASSCOM, CIOKlub, TiE Kolkata Chapter and IEEE ComSoc Kolkata Chapter INFOCOM 2021 drew its curtains down after the four-day virtual quest to discover the new paradigms of the Digital Revolution in a post pandemic world.





# Part D – Social Activities

### **Event: Team Building Get Together**

Fotal number of events conducted:
01
Date
03.01.2021
Number of attendees
05

### Very short and precise description

A social cum team building event was organised on 03<sup>rd</sup> January, 2021 with the Execom Members. Some of the members have been able to present physically in the meeting.

Mr. Pallab Ganguly, Chair, ComSoc Kolkata Chapter greeted all the members with a wish note for a happy and prosperous new year-2021. Mr. Subhamoy Chakraborti, Secretary also conveyed season's greetings to all the members. All the attendees shared their mental wellbeing conditions and experiences of engaging themselves in various activities starting from kitchen garden, gardening, yoga etc. to keep the mental and physical balance in the pressing pandemic situation under several travel and community meeting restrictions. There were discussions about peer networking, professional collaboration, vaccination status etc. A networking dinner was arranged for the team members. The team building get together rejuvenated the mental conditions to some extent, and brings positivity amidst the pandemic. All the members have thoroughly enjoyed the get-together.

