EAI BODYNETS 2024
&
Bharat 6G Workshop

Organized by
Department of Electronics Engineering

भारतीय प्रौद्योगिकी संस्थान (का.हि.वि.) वाराणसी

Indian Institute of Technology (BHU), Varanasi

15-16 December, 2024

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Conference Schedule

Day 1- 15th December 2024

Time	Location	Events		
08:30 onward	ABLT Ground floor	Registration (Papers accepted as a Poster should be displaced in the designated area)		
09:30-10:00	ABLT-4	Event Inauguration		
10:00-10:30	ABLT-4	Welcome address		
10:30-11:00	ABLT Ground floor	**High Tea**		
11:00-11:45	ABLT-4	Keynote by Prof. Teemu Myllylä on **Title: Prospects of Healthcare Utilizing 6G** **Affiliation**: *Professor Research Unit of Health Sciences and Technology, Faculty of Medicine & Optoelectronics and Measurement Techniques Research Unit, Faculty of Information Technology and Electrical Engineering, University of Oulu, Finland* **Session Chair:** **Dr. Muralikrishnan Srinivasan** **Session Co-Chair:** **Dr. Daljeet Singh**		
12:00-12:30	ABLT-4	Invited talk: Prof. Nilesh Mehta on **Title: Energy-Efficient and Communication on-efficient Wireless Sensor Networks** **Affiliation**: *Department of Electrical Communication Engineering at the Indian Institute of Science (IISc), Bangalore.* **Session Chair:** **Dr. Somak Bhattacharyya** **Session Co-Chair:** **Dr. Ankur Pandey**	**Parallel Oral Sessions**	
			ABLT-1 **Session Chair:** **Dr. Deepak Mishra**	Track A
			ABLT-2 **Session Chair:** **Dr. Kishor P. Sarawadekar**	Track B
			ABLT-3 **Session Chair:** **Dr. Shivam Verma**	Track C
12:30-13:00	ABLT-4	Invited talk: Dr. Ashish Sahani on **Title: Digital Health Innovation and Entrepreneurship — Leveraging the Power of xR, AI, and IoT in Physical and Mental Health** **Affiliation**: *Director of Epilepto Systems.* **Session Chair:** **Dr. Ankit Arora**	**Parallel Oral Sessions**	
			ABLT-1 **Session Chair:** **Dr. Deepak Mishra**	Track A
			ABLT-2 **Session Chair:** **Dr. Kishor P. Sarawadekar**	Track B
			ABLT-3 **Session Chair:**	Track C

<table>
<tr><td></td><td></td><td>Session Co-Chair:
Dr. Om Jee Pandey</td><td colspan="2">Dr. Shivam Verma</td></tr>
<tr><td>13:00-14:00</td><td>ABLT Ground floor</td><td colspan="3">Lunch Break</td></tr>
<tr><td rowspan="4">14:00-14:45</td><td rowspan="4">ABLT-4</td><td rowspan="4">Qualcomm Tutorial:
Title: Challenges and Improvements over Bluetooth LE Audio for Handsets and Earbuds

Session Chair:
Dr. Astha Sharma
Session Co-Chair:
Dr. Muralikrishnan Srinivasan</td><td colspan="2">Parallel Oral Sessions</td></tr>
<tr><td>ABLT-1
Session Chair: Dr. Amit Kumar Singh</td><td>Track A</td></tr>
<tr><td>ABLT-2
Session Chair:
Dr. Smrity Dwivedi</td><td>Track B</td></tr>
<tr><td>ABLT-3
Session Chair:
Dr. Sudhir Kumar</td><td>Track C</td></tr>
<tr><td>15:00-15:30</td><td></td><td>Invited Talk
Dr Abhishek Pathak
Title: Gaps and Challenges in Neuro-technology
Affiliation: Professor Neurology, INSTITUTE OF MEDICAL SCIENCES BANARAS HINDU UNIVERSITY
ABLT-4

Session Chair:
Dr. M. Thottappan
Session Co-Chair:
Dr. Ankur Pandey</td><td colspan="2">Dr. Sowmik Ghosh
Title: Cardiovascular advancement based on wireless technology
Affiliation: Associate Professor, Department of Cardiology, INSTITUTE OF MEDICAL SCIENCES BANARAS HINDU UNIVERSITY
ABLT-1

Session Chair:
Dr. Sanjeev Sharma
Session Co-Chair:
Dr. Priya Ranjan Muduli</td></tr>
<tr><td>15:45 onwards</td><td></td><td colspan="3">Boat ride & Ganga Aarti
(Board the bus at the assembling point – ABLT, IIT (BHU))</td></tr>
<tr><td>19:30 onwards</td><td></td><td colspan="3">Gala Dinner at Chet Singh Kila, Chet Singh Ghat, Near Shivala, Varanasi</td></tr>
</table>

Day 2- 16th December 2024

<table>
<tr><th>Time</th><th>Location</th><th colspan="3">Events</th></tr>
<tr><td>08:30 onward</td><td>ABLT Ground floor</td><td colspan="3">Workshop Registration</td></tr>
<tr><td>09:30-10:00</td><td>ABLT-4</td><td colspan="3">Workshop Inauguration</td></tr>
<tr><td>10:00-10:30</td><td>ABLT-4</td><td colspan="3">Address by the Director General, Bharat 6G Alliance</td></tr>
<tr><td>10:30-11:00</td><td>ABLT Ground floor</td><td colspan="3">High Tea</td></tr>
<tr><td rowspan="4">11:00-11:30</td><td rowspan="4">ABLT-4</td><td rowspan="4">Keynote by Shri Vinod Kumar on
Title: Bharat 6G Vision: Pioneering the Future of Global Connectivity
Affiliation: Deputy Director General (DDG), Department of Telecommunications (DoT), and Bharat 6G Head

Session Chair:
Dr. Astha Sharma</td><td colspan="2">Parallel Oral Sessions</td></tr>
<tr><td>ABLT-1
Session Chair:
Dr. M. Thottappan</td><td>Track A</td></tr>
<tr><td>ABLT-2
Session Chair:
Dr. Amit Kumar Singh</td><td>Track B</td></tr>
<tr><td>ABLT-3
Session Chair:
Dr. N.S. Rajput</td><td>Track C</td></tr>
<tr><td>11:30-12:15</td><td>ABLT-4</td><td colspan="3">Keynote by Prof. Maurizio Magarini on
Title: The Future of Cellular Wireless Communications: 6G and Ubiquitous Connectivity
Affiliation: Associate Professor, Department of Electronics, Information & Bioengineering Politecnico di Milano

Session Chair:
Dr. Muralikrishnan Srinivasan
Session Co-Chair:
Dr. Daljeet Singh</td></tr>
<tr><td rowspan="4">12:15-13:00</td><td rowspan="4">ABLT-4</td><td rowspan="4">6G in India: Research, Roadmap, and Opportunities
Panel discussion with invited government-industry-academia dignitaries

Moderator: Dr. Ankur Pandey, Academia: Prof. Maurizio Magarini (Politecnico di Milano) , Prof. Preetam Kumar (IIT Patna), Government: Shri. Rajesh Pathak</td><td colspan="2">Parallel Oral Sessions</td></tr>
<tr><td>ABLT-1
Session Chair:
Dr. Priya Ranjan Muduli</td><td>Track A</td></tr>
<tr><td>ABLT-2
Session Chair:
Dr. Smrity Dwivedi</td><td>Track B</td></tr>
<tr><td>ABLT-3
Session Chair:</td><td>Track C</td></tr>
</table>

		(*Director General, Bharat 6G Alliance*), Dr. Astha Sharma (Assistant Director (Technology), Bharat 6G Alliance)	**Dr. Shivam Verma**	
13:00-14:00	ABLT Ground floor	Lunch Break		
14:00-14:45	ABLT-4	Recent advancements in Quantum Technology at IIT (BHU), Varanasi **Title:** Integrated Quantum Radar Sensing with Secure Communication **Affiliation:** *Assistant Professor, Department of Electronics Engineering, IIT (BHU), Varanasi.* **Session Chair:** **Dr. Ankit Arora** **Session Co-Chair:** **Dr. Priya Ranjan Muduli**	**Parallel Oral Sessions**	
			ABLT-1 **Session Chair: Dr. Amit Kumar Singh**	Track A
			ABLT-2 **Session Chair:** **Dr. Somak Bhattacharyya**	Track B
			ABLT-3 **Session Chair:** **Dr. Hari Shankar**	Track C
14:45-15:30	ABLT-4	Keynote by Prof. Jasmin Grosinger on **Title:** "**RF Design for Ultra Low Power Wireless Communication Systems 6G**" **Affiliation:** *Graz University of Technology in Austria, Visiting Associate Professor at the Tohoku University in Sendai, Japan.* **Session Chair:** **Dr. Somak Bhattacharyya** **Session Co-Chair:** **Dr. Ankur Pandey**	**Parallel Oral Sessions** ABLT-3 Track C **Session Chair:** **Dr. Shivam Verma**	
15:30-15:45	ABLT Ground floor	**Tea Break**		
15:45-16:15	ABLT-4	Invited Talk: Dr. Anirban Sarkar on **Title:** "**Specialized Beam Scanning Antenna Arrays and IoT-based Smart Sensing Systems for Upcoming B5G/ 6G Applications**" **Affiliation:** *Assistant Professor, School of Computing and Electrical Engineering, Indian Institute of*	**Parallel Oral Sessions**	
			ABLT-1 **Session Chair:** **Dr. Ankur Pandey**	Track A
			ABLT-2 **Session Chair:** **Dr. Ashutosh Kumar Singh**	Track B

<table>
<tr><td></td><td></td><td>Technology Mandi

Session Chair:
Dr. M. Thottappan
Session Co-Chair:
Dr. Somak Bhattacharyya</td><td>ABLT-3
Session Chair:
Dr. Amit Mishra</td><td>Track C</td></tr>
<tr><td rowspan="4">16:15-16:45</td><td rowspan="4">ABLT-4</td><td rowspan="4">Invited talk: Dr. Shubhajit Roy Chowdhury on
Title: “Cerebral oxygenation studies through Near Infrared Spectroscopy aided by Anodal Transcranial Direct Current Stimulation: Problems and prospects”
Affiliation: Associate Professor, School of Computing and Electrical Engineering, IIT Mandi, India,

Session Chair:
Dr. Shivam Verma
Session Co-Chair:
Dr. Sanjeev Sharma</td><td colspan="2">Parallel Oral Sessions</td></tr>
<tr><td>ABLT-1
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<tr><td>ABLT-2
Session Chair:
Dr. Ashutosh Kumar Singh</td><td>Track B</td></tr>
<tr><td>ABLT-3

IEEE Communication Society, UP Section, AGM Meeting, Chapter CH10860</td><td></td></tr>
<tr><td>16:45-17:30</td><td>ABLT-4</td><td colspan="3">Valedictory Ceremony</td></tr>
</table>

Keynotes, Invited Talk, and Tutorials

15th Dec 2024 11:00 - 11:45 Keynote

Prof. Teemu Myllylä

University of Oulu, Finland

Title: Prospects of Healthcare Utilising 6G.

Abstract: The advent of 6G technology promises transformative advancements in healthcare, enabling ultra-reliable, low-latency communication and massive device connectivity. By integrating artificial intelligence, edge computing, and extended reality, 6G can support applications such as remote surgery, real-time health monitoring, and personalized medicine. Its enhanced data speeds and security protocols facilitate seamless sharing and analysis of medical data, improving diagnostic accuracy and patient outcomes. Additionally, 6G empowers rural and underserved regions with equitable access to healthcare services through advanced telemedicine. This paper explores the technical capabilities of 6G, its potential healthcare applications, and the challenges in ensuring ethical and secure implementation.

15th Dec 2024 12:00-12:30 Invited Talk

Prof. Nilesh Mehta

Indian Institute of Science (IISc), Bangalore

Title: Energy-Efficient and Communication on-efficient Wireless Sensor Networks.

Abstract: Energy-efficient and communication-efficient wireless sensor networks (WSNs) are critical for improving the performance and longevity of sensor-based systems, particularly in resource-constrained environments. These networks rely on low-power devices to collect and transmit data, but the challenges of limited energy resources and high communication overhead require innovative strategies. Techniques such as energy harvesting, sleep modes, data compression, and duty cycling help reduce energy consumption, while protocols like data aggregation and hierarchical routing optimize communication. By balancing energy use and communication efficiency, these networks can extend operational lifespans, enhance data accuracy, and support scalable, sustainable solutions for applications in healthcare, environmental monitoring, and industrial systems.

15th Dec 2024 12:30-13:00 Invited Talk

Dr. Ashish Sahani

Epilepto Systems

Title: Digital Health Innovation and Entrepreneurship — Leveraging the power of xR, AI and IoT in physical and mental health.

Abstract: Digital health innovation and entrepreneurship are transforming physical and mental health by integrating cutting-edge technologies like extended reality (xR), artificial intelligence (AI), and the Internet of Things (IoT). These technologies enable personalized, immersive, and data-driven healthcare experiences, improving patient engagement, diagnosis, treatment, and monitoring. xR technologies offer virtual therapies and simulations for mental health, while AI supports predictive analytics and decision-making. IoT devices provide real-time health tracking and remote monitoring, empowering patients and healthcare providers. Together, these advancements foster innovative healthcare solutions, promote preventive care, and enable more accessible, efficient, and tailored approaches to both physical and mental well-being.

15th Dec 2024 14:00-14:45 Qualcomm Tutorial

Title: Challenges and Improvements over Bluetooth LE Audio for Handsets and Earbuds

Abstract: Bluetooth is used across the entire consumer electronics ecosystem, including audio, smartphones, IoT, and more. Audio streaming is by far the most popular use case for Bluetooth technology, and it has been shifted to Bluetooth LE from Classic Bluetooth. With the LE Audio Bluetooth standard, the way we experience audio is set to evolve. Audio streaming has challenges like Latency, Robustness, Throughput, and Power. These concerns become even more challenging given audio evolution for ultra-low latency gaming use cases and growing data rate requirements for high-quality or lossless audio. The most used topology for Bluetooth LE audio comprises a phone and two earbuds, where the Phone streams audio to the earbuds. Since Bluetooth and Wi-Fi work in the same 2.4 GHz ISM band, Wi-Fi throughput becomes another important parameter where the Phone gets streaming data from Wi-Fi and streams it to the earbuds over Bluetooth. In such cases, the bandwidth is divided between Wi-Fi and Bluetooth, and it becomes critical for the phone to meet bandwidth requirements for Bluetooth and Wi-Fi. This paper discusses these challenges, suggests improvements using LE audio and quantitative analysis for some of the suggested improvements

15th Dec 2024 15:00-15:30 Invited Talk

Dr Abhishek Pathak

Professor Neurology, IMS, BHU

Title: Gaps and Challenges in Neuro-technology

Abstract: Neuro-technology holds immense potential for advancing neurological diagnostics and therapeutics, yet significant gaps persist in understanding its ethical, technical, and clinical challenges. This presentation explores these barriers, emphasizing the need for interdisciplinary collaboration to overcome limitations. Insights aim to guide future innovations in neuro-technological applications.

15th Dec 2024 15:00-15:30 Invited Talk

Dr Sowmik Ghosh

Associate Professor Cardiology, IMS, BHU

Title: Cardiovascular advancement based on wireless technology

Abstract: Wireless technology revolutionizes cardiovascular care, enabling real-time monitoring, diagnostics, and therapeutic interventions with enhanced precision and accessibility. This presentation delves into advancements such as wearable devices, remote patient monitoring systems, and wireless implantable sensors, highlighting their impact on personalized medicine and improved patient outcomes. Future directions and challenges in integrating wireless innovations into cardiology are also explored.

16th Dec 2024 11:00 - 11:30 Keynote

Shri Vinod Kumar

Deputy Director General (DDG), Department of Telecommunications (DoT), and Bharat 6G Head

Title: Bharat 6G Vision: Pioneering the Future of Global Connectivity

Abstract: Bharat's 6G initiative represents a bold leap into the future of wireless connectivity, aligning with the nation's aspirations for technological leadership and inclusivity in the global digital era. Shri Vinod Kumar will outline the comprehensive roadmap for Bharat’s 6G development, emphasizing the synergies between policy frameworks, innovation ecosystems, and industry-academia partnerships. The talk will highlight key focus areas, including

indigenous research in spectrum efficiency, sustainability, and advanced use cases like quantum communication, joint sensing, and AI-driven networks

16th Dec 2024 11:00 - 11:45 Keynote

Prof. Maurizio Magarini

Politecnico di Milano, Italy

Title: The Future of Cellular Wireless Communications: 6G and Ubiquitous Connectivity.

Abstract: The sixth generation (6G) of cellular wireless communications promises to revolutionize connectivity by enabling ubiquitous, seamless integration of devices, people, and environments. This paper explores the technological advancements driving 6G, including sub-THz frequencies, AI-driven network optimization, and quantum communication protocols. Key enablers such as ultra-reliable low-latency communication (URLLC), intelligent reflecting surfaces, and energy-efficient architectures are highlighted. Applications spanning smart cities, autonomous systems, and immersive extended reality are discussed. By addressing challenges in scalability, security, and sustainability, 6G aims to deliver unprecedented data rates, global coverage, and transformative digital experiences, heralding a new era of hyper-connected ecosystems.

16th Dec 2024 14:45-15:30 Keynote

Prof. Jasmin Grosinger

Graz University of Technology, Austria

Title: RF Design for Ultra-Low-Power Wireless Communication Systems 6G.

Abstract: The evolution of wireless communication systems towards 6G demands innovative solutions for ultra-low-power (ULP) operation, enabling energy-efficient connectivity in resource-constrained devices. This paper explores RF design strategies tailored to ULP wireless systems, emphasizing the integration of advanced materials, miniaturized components, and energy-harvesting mechanisms. Key design considerations include sub-THz frequencies, enhanced modulation techniques, and optimized power amplifiers to support high data rates with minimal energy consumption. Novel architectures for IoT, wearables, and biomedical applications are also discussed. The proposed methodologies aim to bridge performance and sustainability, paving the way for next-generation wireless networks with unprecedented energy efficiency and scalability.

16th Dec 2024 15:45-16:15 Invited Talk

Dr. Anirban Sarkar

Indian Institute of Technology, Mandi

Title: Specialized Beam Scanning Antenna Arrays and IoT-based Smart Sensing Systems for Upcoming B5G/ 6G Applications

Abstract: Specialized beam scanning antenna arrays and IoT-based smart sensing systems are pivotal for the evolution of B5G/6G technologies. These systems enable enhanced connectivity, high data throughput, and low latency by leveraging advanced antenna designs and real-time sensor networks. Beam scanning antennas support dynamic, precise beamforming, improving signal strength, coverage, and energy efficiency in dense, high-speed environments. IoT-enabled smart sensing systems facilitate seamless data collection and integration from diverse sources, enabling real-time decision-making and optimization. Together, these innovations lay the foundation for next-generation applications, including autonomous systems, smart cities, and immersive technologies, driving the future of ultra-reliable, high-performance networks.

16th Dec 2024 16:15-16:45 Invited Talk

Dr. Shubhajit Roy Chowdhury

Indian Institute of Technology, Mandi

Title: Advancements in Biomedical Telecommunication: Bridging Healthcare and Technology for a Connected Future.

Abstract: In this talk, we will explore the latest advancements in biomedical telecommunication, focusing on how emerging technologies are revolutionizing healthcare delivery. We will discuss the integration of telemedicine, wearable health devices, and remote patient monitoring systems that enable real-time data transmission, improving diagnostics, treatment, and patient outcomes. Key challenges, including data security, network reliability, and regulatory considerations, will also be addressed. Furthermore, we will highlight the future potential of 5G, IoT, and AI in advancing personalized care and creating a more connected healthcare ecosystem. The talk aims to provide insights into the evolving role of telecommunication in healthcare innovation.

Session Schedule
Track A

DATE	TIME	LOCATION	AUTHORS	TITLE	PAPER ID
Session Title: Wearable Technology for Security and Health					
15 Dec	12:00-12:15	**ABLT-1**	Roy, Mohendra (Pandit Deendayal Energy University); Acharya, Joy (pandit Deendayal Energy University); Sharma, Paawan (Pandit Deendayal Energy University); Pujara, Dhaval (Pandit Deendayal Energy University)	A Low-Cost RC PUF Architecture for IoT and Wearable Device Security	351419
15 Dec	12:15-12:30	**ABLT-1**	BHATTACHARYA, MANASIJA (NIT ROURKELA); Kumar, Dr. Arun (National Institute of Technology, Rourkela)	Strategic Sink Positioning to Improve Transfer of Essential Body Information	351563
15 Dec	12:30-12:45	**ABLT-1**	Sultana, Sharmeen (Birla Institute of Technology Mesra); Chattoraj, Neela (Birla Institute of Technology Mesra)	Compact UWB Wearable Textile Antenna for Medical Applications with Bending Analysis	350826
15 Dec	12:45-13:00	**ABLT-1**	Arvind, DK (University of Edinburgh)	Step-counting using a Chest-Wearable Respeck	351472
Session Title: Emerging Technologies and Innovative Applications					
15 Dec	14:00-14:15	**ABLT-1**	Jha, Braj Kishore (Rajiv Gandhi Institute of Petroleum Technology); Siddiqui, Mohammad Faizan (Rajiv Gandhi Institute of Petroleum Technology); Anand, Amit (Rajiv Gandhi Institute of Petroleum Technology); Pandey, Ankur (Rajiv Gandhi Institute of Petroleum Technology)	A Low-Overhead CNN-Based Approach for Sleep Posture Recognition with Device-Free Monitoring using UWB Radar	351797
15 Dec	14:15-14:30	**ABLT-1**	Banerjee, Soham (Institute of Engineering and Management, Kolkata); Sengupta, Arjab (Institute of Engineering and Management); Mishra, Vishnu (Indian Institute of Technology, BHU); Sen, Gobinda (Institute of Engineering and Management); Sarkar, Sayan (Institute of Engineering and Management); Kundu, Ardhendu (Institute of Engineering and Management); Bhattacharyya, Somak (IIT (BHU) Varanasi)	A Metasurface-based Dual Band Stop Filter with High Angular Stability for ISM Band Applications	351168
15 Dec	14:30-14:45	**ABLT-1**	Periyasamy, Sasikumar (Vellore Institute of Technology, Vellore); S, Sudharsan (School of Electronics Engineering, Vellore Institute of	Leveraging Deep Learning for Real-Time Object Detection in Campus	350349

			Technology, Vellore, 632014, Tamil Nadu, India); P, Arun Eswar (School of Electronics Engineering, Vellore Institute of Technology, Vellore, 632014, Tamil Nadu, India); P, Arulmozhivarman (Centre for Clean Environment, and Office of Academic Research, Vellore Institute of Technology, Vellore, 632014, Tamil Nadu, India); S, Maheswari (School of Computer Science and Engineering, Vellore Institute of Technology, Chennai, 600127, Tamil Nadu, India)	Surveillance	
Session Title: Advanced Techniques in Wireless and WBAN Systems					
16 Dec	11:00-11:15	**ABLT-1**	Singh, Santosh Kumar (IIT Roorkee); Sah, Abhay Kumar (IIT Roorkee)	Alternating Minimization Based Hybrid Precoder for Cell-Free Massive MIMO Networks	351362
16 Dec	11:15-11:30	**ABLT-1**	Pandey, Rishabh Deo (Birla Institute of Technology, Mesra); Snigdh, Itu (Birla Institute of Technology, Mesra)	Employing Knowledge Graphs for Prescriptive Maintenance in WBANs	351780
Session Title: IoT and Sensing Systems for Healthcare					
16 Dec	12:15-12:30	**ABLT-1**	Mishra, Amit (TIET, Patiala)	Data-Driven IoT-Based Irrigation System for Greenhouse Farming	353905
16 Dec	12:30-12:45	**ABLT-1**	Arora, Anil (Thapar Institute of Engineering and Technology)	Design of a Novel Junctionless MOSFET-Based Architecture to Sense the Biomolecules and its Concentrations	353843
16 Dec	12:45-13:00	**ABLT-1**	Bandi, Venkatesh (Qualcomm India Pvt Ltd); Chauhan, Tanish (Qualcomm India Pvt Ltd); Pandit, Nayla (Qualcomm India Pvt Ltd)	Bluetooth Host and Host-less Mode Combination to Improve Memory and Performance	353120
Session Title: WBAN and Devices					
16 Dec	14:00-14:15	**ABLT-1**	Jangid, Teena (SVNIT Surat); darji, anand (SVNIT, Surat)	Channel Selection Strategy for Early Prediction of Epileptic Seizure Event for Wearable EEG Sensors	351461
16 Dec	14:15-14:30	**ABLT-1**	Sharma, Samarth (Indian Institute of Information Technology, Lucknow); Doulani, Khushbu (Indian Institute of Information Technology,	Fusion of Edge Computing and Wireless Body Area Networks for Real-Time	351422

			Lucknow); Adhikari, Mainak (Indian Institute of Science Education and Research Thiruvananthapuram)	Data Processing	
16 Dec	14:30-14:45	**ABLT-1**	Kumari, Minoti (Banasthali Vidyapith Rajasthan); Shastri, Dr. Anshuman Shastri (Banasthali Vidyapith Rajasthan); Kumar, Diwakar (Banasthali Vidyapith Rajasthan)	Design and Development of 5G Energy Harvesting System for Body Area Network	352688
Session Title: Miscellaneous applications of WBAN					
16 Dec	15:45-16:00	**ABLT-1**	Kiragi, Varsha (Qualcomm India Pvt Ltd); Pandit, Nayla (Qualcomm India Pvt Ltd)	Enhancing Wearables System Alerts and Notification to Headset: Bluetooth LE Audio	352641
16 Dec	16:30-16:15	**ABLT-1**	Revooru, Saipavan (Qualcomm)	AI based energy efficient data compression algorithm for WBAN	352365
16 Dec	16:15-16:30	**ABLT-1**	N, Thirupathi Rao; Kalam, Swathi (VIGNAN institute of information technology, Visakhaptnam)	An Ensemble Real-Time Mask Detection Model using YOLOV4 with CNN Model	352222
16 Dec	16:30-16:45	**ABLT-1**	N, Thirupathi Rao (nakkathiru@gmail.com); Kalam, Swathi (VIGNAN institute of information technology, Visakhaptnam)	Genetic Risk Assessment for Chronic Kidney Disease: An Optimization Framework	352220

Track B

DATE	TIME	LOCATION	AUTHOR	TITLE	PAPER ID
Session Title: FPGA and Machine Learning Applications in Healthcare					
15 Dec	12:00-12:15	**ABLT-2**	Raja, Gunasekaran (Anna University); Essaky, Selvam (Anna University, MIT Campus, Chennai); Karuppanan, Kalimuthu (SRM Institute of Science and Technology, Kattankulathur, Chennai); Theerthagiri, Sudhakar (Anna University); Mohanraj, Bharathkumaran (Anna University); Senniappan, Gopi Agasthia (Anna University); Sureshkumar, Logeswari(Anna University)	AI/ML-Driven Early Detection of Chemotherapy-Induced Renal Vascular Tissue Damage	352706
15 Dec	12:15-12:30	**ABLT-2**	Muthukumar, Maha vishnu (Indian Institute of Technology, Mandi); Roy Chowdhury, Shubhajit (SCEE, IIT Mandi)	Closed Loop Neuromodulation Device Using Field Programmable	351562

				Gate Array	
15 Dec	12:30-12:45	**ABLT-2**	Verma, Tanya (Rajiv Gandhi Institute of Petroleum Technology); Shrivastava, Shivanshu (Rajiv Gandhi Institute of Petroleum Technology); Raza, Arif (Shenzhen University); Dwivedi, Umakant Dhar(Rajiv Gandhi Institute of Petroleum Technology)	Deep Reinforcement Learning Based Q-networks for Efficient Resource Allocation	351455
Session Title: Software Frameworks and Security Systems					
15 Dec	14:00-14:15	**ABLT-2**	Bhat, Manoj(R V College of Engineering); Prabhu H, Dr. Vishalakshi (R V College of Engineering)	Comparison of Quarkus and Spring Boot Microservices with Integration of Kafka in Access Point Management and Streaming	351459
15 Dec	14:15-14:30	**ABLT-2**	Kulkarni, Anant (Institute of Technology, Nirma University, Ahmadabad); Dongarre, Sayali (Godrej and Boyce Mfg. Co. Ltd.); Kharkar, Jidnesha (Weatherford); Gharat, Sanskruti (Vodafone idea limited line, Mumbai); Jacob, Benjamin (University of Florida); Gadade, Gaurav (Fr. C. Rodrigues Institute of Technology, Vashi Mumbai, India); Dugad, Shashi (IISER, Mohali, India)	Multi-Layered Access Controlled Security with Biometrics and Voice Recognition	351040
15 Dec	14:30-14:45	**ABLT-2**	Krishnan, Gowri (BITS Pilani K K Birla Goa Campus); Nishad, Anurag (BITS Pilani K K Birla Goa Campus, India); Upadhyay, Abhay (IIIT Kota, Rajasthan, India)	Basic Hand Movement Classification using Q Factor Based Wavelet Scattering Transform	350812
Session Title: CT Reconstruction and Imaging Techniques					
16 Dec	11:00-11:15	**ABLT-2**	Joseph, Linda (Vellore Institute of Technology, Chennai Campus); T, Thayumanavan (Vellore Institute of Technology, Chennai Campus); S, Varun < (Vellore Institute of Technology, Chennai Campus)	An Optimized ICT Approach for Lung Cancer Utilizing Recursive Information Gain and Feature Elimination	353870
16 Dec	11:15-11:30	**ABLT-2**	Nagdiya, Jagrati (Amity University, Gwalior, Madhya Pradesh); Goyal, Dr. Rajeev (Amity University Madhya Gwalior (M.P.))	Deep Learning Augmentation for Adversarial Robustness in Body Area Networks	351406
Session Title: Advanced Communication and Actuation Systems					
16 Dec	12:15-12:30	**ABLT-2**	Pachori, Yugal (SCEE, IIT Mandi); Kushwaha, Avinash (SCEE, IIT Mandi); Kulkarni, Prashant D	Binary System of Actuation to Puff Out	350804

			(SCEE, IIT Mandi); Shrivastava, Vinod (SCEE, IIT Mandi); Singh, Dinesh (SCEE, IIT Mandi); Chowdhury, Shubhajit Roy (SCEE, IIT Mandi)	Odoriferous Substance	
16 Dec	12:30-12:45	**ABLT-2**	Rana, Abhishek (Thapar Institute of Engineering and Technology, Patiala); Joshi, Hem (Thapar Institute of Engineering and Technology); Singh, Kulbir < (Thapar Institute of Engineering and Technology, Patiala); kumar, Atul (IIT (BHU) Varanasi); Singh, Hari (Thapar Institute of Engineering and Technology, Patiala)	Simulation Analysis of Graphene-Based RIS for Next Generation Wireless Communication	351508
16 Dec	12:45-13:00	**ABLT-2**	Sengupta, Arjab (Institute of Engineering and Management); Banerjee, Soham (Institute of Engineering and Management); Mishra, Vishnu Kumar (Indian Institute of Technology, BHU); Sen, Gobinda (Institute of Engineering and Management); Sarkar, Sayan (Institute of Engineering and Management); Kundu, Ardhendu (Institute of Engineering and Management); Bhattacharyya, Somak (Indian Institute of Technology, BHU)	Design of a Flexible Metasurface-Based Dual Bandpass Filter in ISM and IoT Bands Towards Wearable Applications	351156
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16 Dec	14:00-14:15	**ABLT-2**	Kaur, Jatinder (Thapar Institute of Engineering and Technology)	Comparative Analysis of ResNet50 vs. ResNet101 Architectures in Brain Tumor Classification	350825
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16 Dec	14:30-14:45	**ABLT-2**	Paliwal, Manish (Pandit Deendayal Energy University, Gandhinagar); Rupchandani, Bhumika (Pandit Deendayal Energy University); Thakor, Saumya (Pandit Deendayal Energy University); Shastri, Aditya (Pandit Deendayal Energy University); Sabale, Ketan (Pandit Deendayal Energy University)	Improving Spectral Clustering Scalability through Intelligent Sampling Methods	349648
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16 Dec	15:45-16:00	**ABLT-2**	Gothwal, Ritu (Thapar Institute of Engineering and Technology); Tiwari, Shailendra (Thapar Institute of Engineering and Technology); Shivani, Shivendra (Thapar Institute of Engineering and Technology)	Attention-Based Unsupervised CT Reconstruction Technique for Low Dose CT	351449

16 Dec	16:00-16:15	**ABLT-2**	Gupta, Sunny (Qualcomm)	Wearable Acoustic and Vibration Sensing for Early Detection of Cardiovascular and Respiratory Diseases Using Machine Learning	353614
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16 Dec	16:30-16:45	**ABLT-2**	Saxena, Shatakshi (Thapar Institute of Engineering and Technology); ., Angel (Thapar Institute of Engineering and Technology); Gill, Aaryaveer (Thapar Institute of Engineering and Technology); Tiwari, Shailendra (Thapar Institute of Engineering and Technology)	A Real-Time Driver Safety Assistance Proactive Accident Care Using Deep Learning and Attention Mechanisms	351452

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15 Dec	12:15-12:30	**ABLT-3**	Paladuga, Satish Rama Chowdary (Raghu Institute of Technology); BVDS, Sekhar (SRKR Engineering College)	On the Efficient-Net based Alzeihmers detection	351804
15 Dec	12:30-12:45	**ABLT-3**	Maddheshiya, Sanjeet Kumar (IIT-BHU, Varanasi); Chavakula, Parikshith (IIT-BHU Varanasi); Muduli, Priya Ranjan (IIT-BHU Varanasi); Sharma, Neeraj (	Design and Development of Flexible Tactile Sensor Based Force Myography	351396

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