IEEE

APSCON 2026

IEEE Applied Sensing Conference

New Delhi, India // 23-25 February 2026

THE 2026 IEEE APPLIED SENSING CONFERENCE

CONFERENCE PROGRAM

SPONSORS & ORGANIZERS

IEEE

IEEE Sensors Council

Please visit our website for more information!

2026.ieee-apscon.org

Table of Contents

Welcome Message 3
Organizing Committee 5
Track Chairs 7
Patrons and Exhibitors 8
Exhibition Hanger Map 10
Plenary Speakers 11
Keynote Speakers 12
Focused Sessions 13
YP The Next Big Thing (NBT) in Sensors 14
YP Workshops 15
Sensors Standards Opportunity 17
In-Conference Workshop 19
Sensorpreneur Pitch 20
MYOSA Student Competition 21
Startup Summit 22
IEEE DataPort Competition 23
Pre-University Students Interactive Session 24
Social Events 25
Venue Map 26
Poster Map 27
Program at a Glance 28
Technical Program: Sunday, February 22 30
Technical Program: Monday, February 23 31
Technical Program: Tuesday, February 24 43
Technical Program: Wednesday, February 25 53

Welcome Message

Dear Participants,

On behalf of the organizing committee, it is our pleasure to welcome you to participate, present, and exhibit, in the IEEE International Conference on Applied Sensing (APSCON 2026) at Taj Vivanta, New Delhi, Dwarka, India. We also wish to express our gratitude for your attendance. New Delhi, the capital of India, is a dynamic blend of history, culture, and modernity. It is a city of rich heritage and represents a fusion of different cultures.

Financially sponsored by the IEEE Sensors Council, APSCON 2026 offers an excellent forum to discuss latest developments in the field of sensing and sensors applications. The conference comprehensively covers all areas of sensors' applications, including agriculture and food technology, transportation systems, medical and digital healthcare, manufacturing and automation, environmental and climate change monitoring, infrastructure and sustainability, robotics and digital twins, wearable and immersive technologies, analytical and instrumentation, quantum technologies, and artificial intelligence for sensing, among others.

Building on the successes of the previous three conferences, APSCON 2026 offers a unique opportunity for the academic community to meet and network with industrial leaders in the field, and for industrialists to get an update on the most advanced applications of sensing technologies. Toward this end, the conference also has several talks by experts from industry, government and academia. This is further enriched by the exhibitors and live demos covering various facets of sensor systems and their diverse applications. We hope the atmosphere, breadth and depth of research topics combined with the quality of invited and contributed technical presentations will make IEEE APSCON a 'must attend' event for you every year.

The conference program consists of three plenary talks, three keynote and twelve invited lectures by eminent researchers in the field. The technical program is divided among more than 10 regular tracks and a special session track. The technical papers in all the above areas have been selected for oral and poster presentations following a detailed peer review process. Just as in the previous year, APSCON 2026 offered two options for publication of original works including submission to conference (Option A) and IEEE Sensors Letters (Option B). Of the 457 submitted papers (244 papers submitted via Option A and 213 via Option B), a total of 222 papers (147 accepted in Option A and 75 in Option B) will be presented during the conference by delegates from 18 countries (90% from Asia-Pacific, 6% from Europe and Africa, 4% from America region). APSCON also offers authors of regular papers published in IEEE Sensors Journal and IEEE Sensors Letters, the opportunity to present during the conference. A total of 13 such presentations are included in the conference program.

Our conference delegates will gain profound insight into the state-of-the-art from three distinguished plenary and three keynote speakers:

Plenary Speakers:

1. Takao Someya (The University of Tokyo, Japan)
2. Yogesh Gianchandani (University of Michigan, Ann Arbor)
3. Anja Boisen (Department of Health Technology, Technical University of Denmark)

Keynote Speakers:

1. Chandrasekhar Nair (Director & Chief Technology Officer (CTO) Molbio Diagnostics)
2. Nilesh M. Desai (Director of Space Applications Centre (SAC), ISRO)

IEEE APSCON 2026 will also have an in-conference workshop on "Science Without Borders: Driving Innovation through Global Partnerships". The technical program will be supplemented with Special Sessions, Live Demonstrations, Sensors Startup Summit, Sensors Standard Opportunities, and a Student Research Forum. We have 15 Live Demos, 15 MYOSA demonstrations, 15 Student Research Forums, and 11 Sensors Startup demonstrations. There are several exhibition stalls in the exhibition hangar and we encourage you to visit them. We greatly appreciate the support from our sponsors.

Under the Sensors Startup Summit, emerging startups are invited to network and share their success stories, opportunities, marketplace and technological challenges. Live Demos of their business model is also included in the program.

In the Students Research Forum section, advanced stage PhDs candidates and those who completed PhD recently (not older than 6 months), MTech/MS theses students and the undergraduate research students are invited to present their work and get feedback from the experts. This initiative is expected to provide an excellent opportunity to aspiring students to improve their work in addition to exploring post-doctoral and/or job opportunities.

The Sensors Standards Opportunities event invites participants to explore sensors domain's standards development opportunities while sharing an overview of its activities in context of state-of-the-art and emerging sensing technologies.

All these activities and events will culminate in the following awards which will be presented during the Conference Gala Dinner:

1. Best Paper (Lecture) - 2 awards
2. Best Paper (Poster) - 2 awards
3. Live Demo - 2 awards
4. Student Research Forum Award - 2 awards
5. Sensorpreneurship Award – 2 awards
6. MYOSA (Make Your Own Sensors Applications) Contest - 5 awards
7. Sensors Startup Challenge Award - 3 awards
8. Next Big Thing – 3 awards
9. DataPort Competition - 3 Awards

IEEE Sensors Council has a very active Women in Sensors (WiSe) team. WiSe team has supported two family care grants. The IEEE SC Family Care Grant Program supports attendance at IEEE APSCON 2026 by covering family care costs (including children, seniors, disabled needs) up for those with competing family responsibilities. The IEEE Sensors Council Young Professionals team has planned many exciting events. On February 23 prior to the welcome reception The Next Big Thing in Sensors will take place. This unique competition challenges you to look forward and define the Next Big Thing (NBT) in Sensors and is designed to be an icebreaker for understanding new opportunities in sensors. Two workshops are also planned for February 24, one focused on preparing journal papers and the other one on grant writing for success. On February 24 Sensorpreneur Pitch will also be held where entrepreneurs will be given an opportunity to network, find mentors and come up with innovative ideas at the end of the event.

Welcome Message

Conference delegates are also invited to join the Conference Gala Dinner taking place on the lawn of the Taj Vivanta. The Gala Dinner will be preceded by a captivating Kathak performance by the renowned Padmashri Shovana Narayan.

Sensors Council is committed to sustainability. APSCON 2026 will be eliminating the use of paper posters and using E-posters as a new initiative of Sensors Council.

The conference will end with the Multi-Cultural Extravaganza. This event will embrace diversity and promote cross-cultural understanding. The delegates are encouraged to showcase the unique activities, traditions, and artefacts of their region or country through an interactive display. We hope conference delegates will enthusiastically participate in this multicultural extravaganza!

We wish all attendees an exceptional, productive, and memorable IEEE APSCON 2026 conference!

Ramgopal Rao, Usha Varshney
General Co-Chairs

Ashok Kumar Pandey, Hamida Hallil Abbas
Technical Program Committee Co-Chairs

Organizing Committee

General Co-Chairs

Ramgopal Rao, *BITS Pilani, India*
Usha Varshney, *National Science Foundation Former Program Director, USA*

Technical Program Co-Chairs

Ashok Kumar Pandey, *IIT Hyderabad, India*
Hamida Hallil-Abbas, *University of Bordeaux, France*

Treasurer

Srinivas Tadigadapa, *Northeastern University, USA*

Advisory Committee Co-Chairs

Ravinder Dahiya, *Northeastern University, USA*
Anil Roy, *Plaksha University, Mohali, India*

Local Organizing Committee Co-Chairs

Kavya Dashora, *IIT Delhi, India*
Ankur Gupta, *IIT Delhi, India*
Dhiman Mallick, *IIT Delhi, India*

Sponsorship Chair

Sanket Goel, *BITS Pilani Hyderabad, India*

Young Professionals (YP) Co-Chairs

Joseph Andrews, *University of Wisconsin – Madison, USA*
Abhishek Appaji, *B.M.S. College of Engineering, Bengaluru, India*

WiSe Co-Chairs

Paola Saccomandi, *Politecnico di Milano, Italy*
Anwesha Khasnobish, *TCS Research, Kolkata, India*
Gayathri Pillai, *IISc Bangalore, India*

Student Research Forum Co-Chairs

Parikshit Sahatiya, *BITS Pilani Hyderabad Campus, India*
Chirasree RoyChaudhuri, *Indian Institute of Engineering Science and Technology (IIEST) Shibpur, India*

Live Demo Co-Chairs

Han Shao, *Tyndall National Institute, University College Cork, Ireland*
Ponnalagu R N, *BITS Pilani Hyderabad, India*

Sensors Standards Opportunity Session Co-Chairs

Sayan Kanungo, BITS Pilani Hyderabad, India
Jagannath Nayak, DRDO, Hyderabad, India

Journal Conference Synergy Committee Co-Chairs

Ravinder Dahiya, *Northeastern University, USA*
Anil Roy, *Plaksha University, Mohali, India*

Focused Sessions Co-Chairs

Shantanu Bhattacharya, *Director CSIR-Central Scientific Instruments Organisation, India*
Shailesh Shankar Deshpande, *Tata Research Development and Design Centre, TCS research, Pune, India*
Jonathan Cooper, *The Wolfson Chair of Bioengineering at the University of Glasgow, UK*

Startup Meetup Committee Co-Chairs

Saakshi Dhanekar, *IIT Jodhpur, Rajasthan, India*
Raviskrishnan Elangovan, *IIT Delhi, India*

Chapter Activities Co-Chairs

Veda Sandeep Nagaraja, *Tyndall National Institute, Ireland*
Pooja Devi, *CSIR-Central Scientific Instruments Organisation, Chandigarh, India*

Publications Chair

Veda Sandeep Nagaraja, *Tyndall National Institute, Ireland*

Organizing Committee

Sensors Letters (SL) Re-Routed Papers Committee Co-Chairs

Ashok Kumar Pandey, *IIT Hyderabad, India*
Hamida Hallil-Abbas, *University of Bordeaux, France*
Enakshi Bhattacharya, *IIT Madras, India*

Awards Committee

Srinivas Tadigadapa, *Northeastern University, USA*
Enakshi Bhattacharya, *IIT Madras, India*
Thilo Sauter, *Donau-Universität, Vienna, Austria*
Sanket Goel, *BITS Pilani Hyderabad, India*
Hamida Hallil-Abbas, *University of Bordeaux, France*
Kavya Dashora, *IIT Delhi, India*

Track Chairs

Track 1: Agriculture and Food Technology

Kavya Dashora, *IIT Delhi, India*
Alan O'Riordan, *Tyndall National Institute, Ireland*
Dinesh Singh, *TCS, India*

Track 2: Transportation Systems

Hussain Kachwala, *IIT Delhi, India*
Nazila Fough, *University of Glasgow, UK*
Rolland Vida, *Budapest University of Technology and Economics, Hungary*

Track 3: Medical and Digital Healthcare

Dipankar Bandyopadhyay, *IIT Guwahati, India*
Gautam Bacher, *BITS Pilani Goa, India*
Jerome Cieslak, *Bordeaux University of Bordeaux, France*

Track 4: Manufacturing and Automation

Shubhra Gangopadhyay, *The University of Missouri, USA*
David Gucik Derigny, *The University of Bordeaux, France*

Track 5: Environment and climate change Monitoring

Mitradip Bhattacharjee, *IISER Bhopal, India*
Berengere Lebental, *Université Gustave Eiffel, France*
Tapas Chakravarty, *Institute of Engineering and Management (IEM), Sector V, Kolkata, India*

Track 6: Infrastructure and Sustainability

Seiichi Ogata, *Kyoto University, Japan*
Pradeep Yemula, *IIT Hyderabad, India*
Sangeeta Kale, *Defence Institute of Advanced Technology, India*

Track 7: Robotics and Digital Twin

Sujay Kadam, *DAIICT, India*
Shubhendu Bhasin, *IIT Delhi, India*
Nitesh Bhatia, *UK Atomic Energy Authority, UK*

Track 8: Wearables and Immersive Technologies

Sharmistha Bhadra, *McGill University, Canada*
Mohan Kumar, *Funplayiot, India*
Shahid Malik, *IIT Delhi, India*

Track 9: Analytical and Instrumentation

Jiro Hirokawa, *Tokyo Institute of Technology, Japan*
Rajan Jha, *IIT Bhubaneswar, India*

Track 10: Emerging Quantum Technologies

Poornendu Chaturvedi, *DRDO, India*
Giorgos Fagas, *Tyndall National Institute, Ireland*
Bhaskar Kenseri, *IIT Delhi, India*

Track 11: Live Demo

RN Ponnalagu, *BITS Pilani Hyderabad Campus, India*
Han Shao, *Tyndall National Institute, Ireland*

Special Session: AI for Sensing

Soma Bandyopadhyay, *TCS, India*
Prasanta Guha, *IIT Kharagpur, India*
Guillaume Perrin, *University of Eiffel, France*

Focus Session 1: Edge Intelligence in Sensing: TinyML, Federated Learning, and Sensor Fusion

Mukesh Kumar, *CGC University, India*

Focus Session 2: Artificial Intelligence with Internet of Things (AIOT)

Sujeet More, *KJEI, India*

Focus Session 3: Cognitive Science for Marketing and Behavior Analysis

Debatri Chatterjee, *TCS, India*

Patrons and Exhibitors

Gold Patron

Silver Patron

Bronze Patron

Delegate Kit Patron

Awards Patron

Patrons and Exhibitors

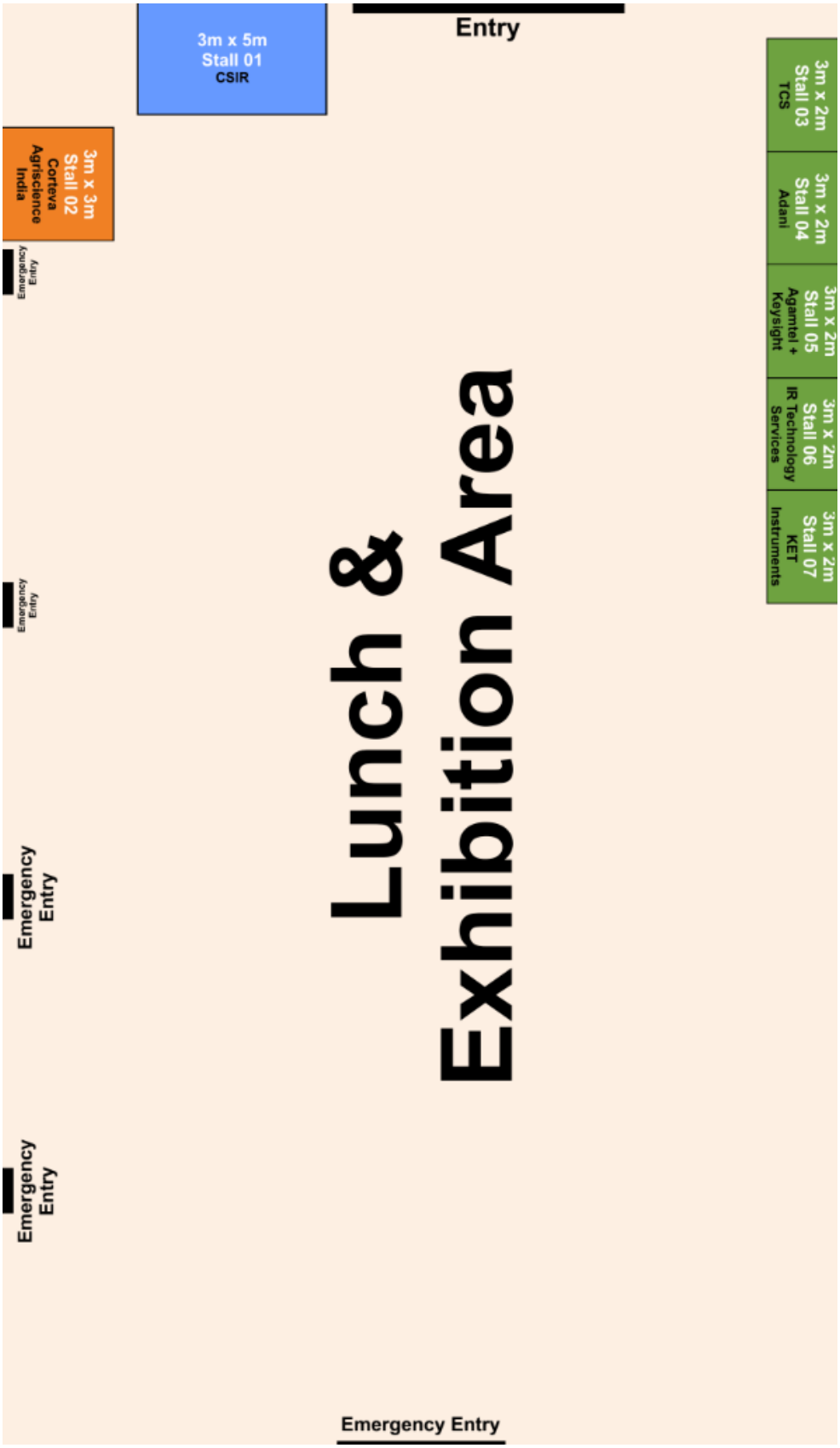
Exhibitors

YP Event Sponsor

Other Patrons

Conference Sponsor

Exhibition Hanger Map



Plenary Speakers

Monday | February 23 | 14:00 – 15:00

Takao Someya, *Graduate School of Engineering, The University of Tokyo, Japan*

Electronic Skins for Robotics and Next Generation Wearables

The human skin is a large-area, multi-point, multi-modal, and stretchable sensor, inspiring the development of electronic skin for robots capable of detecting pressure and thermal distribution simultaneously. With improvements in conformability, electronic skin has evolved beyond robotics to next-generation wearables for humans, reaching a stage where ultrathin semiconductor membranes can be directly laminated onto the skin. This intimate and conformal integration of electronics with human tissue enables continuous health monitoring over extended periods, paving the way for personalized medical care.

The ultimate goal of electronic skin is to non-invasively measure human activities in natural conditions, fostering interactive reinforcement between artificial and biological skin. In this talk, I will review recent advances in stretchable thin-film electronics for applications in robotics and healthcare wearables, and discuss their growing relevance across diverse fields, while highlighting current challenges and future prospects of electronic skin.

Tuesday | February 24 | 12:30 – 13:30

Yogesh Gianchandani, *University of Michigan, Ann Arbor*

Gas-phase microfluidic systems meet real-world practical applications: collecting, separating, identifying, and quantifying volatile organic compounds at the chip scale

Volatile organic compounds (VOCs) such as benzene, toluene, and xylene are common pollutants found in fugitive emissions from industrial processing; from refinement, distribution, and combustion of petroleum and oil; and from printing and painting. Elevated exposure to such VOCs can result in central nervous system dysfunction, respiratory and cardiovascular diseases, and cancer. There is an obvious need to monitor and regulate such emissions in a cost-effective manner.

I will selectively review the nearly 50-year trajectory of research directed at micro-gas chromatographs for collecting, separating, identifying, and quantifying VOCs. New architectural options which are highly effective make better use of microfabricated elements than what is possible with conventional configurations. Results from advanced prototypes and recently commercialized micro-GCs show robust operation, with limits of detection that are better than 1 ppb for a number of VOCs – even while using ambient air as the carrier gas. Some of these microsystems incorporate more than 15 microfluidic elements on a single chip. However, in all cases the pumps are physically separate elements, which begs the question: is it possible to have a single-chip monolithic gas chromatograph that incorporates all the essential gas phase fluidics, including pumps?

This research is performed in the context of the University of Michigan Center for Wireless Integrated MicroSensing and Systems (WIMS 2). The Center brings together research in multiple specialties to facilitate microsystems for healthcare and environmental monitoring.

Wednesday | February 25 | 14:15 – 15:15

Anja Boisen, *Department of Health Technology, Technical University of Denmark*

Medical Micro & Nanotechnologies – fast blood analysis and 'swallow your doctor'

Our ability to shape materials at the nanoscale opens up new possibilities for, among other things, rapid diagnostics and smart medication. I will give examples from our research that encompass both new discoveries and startup stories.
In the treatment of leukemia and sepsis, there is a need for therapeutic monitoring of drug concentrations in patients' blood. Silicon structures at the nanometer scale can have surprising optical properties. For example, they can enhance the so-called Raman scattering more than a million times. This effect can be used to perform very sensitive measurements of small molecules in a complex blood sample.

Our vision is that in the future we can 'swallow our doctor'. Ingestible capsules can be made smart so that they can eventually measure, take samples, and perform local repairs/medication in the stomach and intestines. Can this be done without also having to swallow a battery, and how do you take a sample from the intestines?

Keynote Speakers

Monday | February 23 | 11:30 – 12:30

Chandrasekhar Nair, *Director & Chief Technology Officer (CTO) Molbio Diagnostics*

Tuesday | February 24 | 14:15 – 15:15

Nilesh M. Desai, *Director of Space Applications Centre (SAC), ISRO*

Wednesday | February 25 | 9:00 – 10:00

Abhay Karandikar, *Secretary, Department of Science & Technology (DST)*

Focused Sessions

Edge Intelligence in Sensing: TinyML, Federated Learning, and Sensor Fusion
Mukesh Kumar

The rapid growth of connected devices has transformed the way sensors are deployed across healthcare, industry, agriculture, environment, and smart cities. However, the increasing volume of raw data generated by these sensors presents challenges in terms of bandwidth, energy consumption, latency, and privacy. This Focus Session will explore the emerging paradigm of edge intelligence embedding machine learning and advanced analytics directly into sensing devices to enable real-time, secure, and energy-efficient decision-making. The session will bring together researchers, practitioners, and industry experts working at the intersection of sensing, TinyML, federated learning, and multimodal sensor fusion. Topics of interest include novel algorithms and hardware architectures for resource-constrained sensors, energy harvesting for intelligent devices, federated and privacy-preserving learning across distributed sensors, and deployment case studies in real-world domains such as biomedical monitoring, predictive maintenance, and climate resilience. By bridging theory and practice, this session aims to showcase cutting-edge solutions and identify key challenges that must be addressed to realize the vision of autonomous, intelligent, and trustworthy sensing systems. Participants will gain insights into how edge intelligence can redefine the future of sensing by enabling faster responses, reduced data dependence, and greater scalability.

Artificial Intelligence with Internet of Things (AIOT)
Sujeet More

The Artificial Intelligence of Things (AIoT) combines artificial intelligence (AI) technology with the Internet of Things (IoT) infrastructure in order to develop more effective IoT operations, increase interactions between humans and machines, optimize data management and analytics. An essential aspect of AIoT is the application of AI to a specific thing. In its most basic form, this entails conducting AI on the device, also known as edge computing, with no external connections required. AIoT does not require an Internet; it is just a development of the IoT concept, and the resemblance ends there. The combined potential of AI and IoT promises to unleash untapped consumer value across a wide range of business verticals, including edge analytics, autonomous cars, customized fitness, remote medical care, precision cultivation, intelligent retail, automated upkeep, and manufacturing machinery automation.

Cognitive science for marketing and behavior analysis
Debatri Chatterjee

The proposed session focuses on using human sensing and data analytics to detect, interpret and respond to human behavior to improve marketing effectiveness and to gain insights into customers' motivations, preferences, and decisions. This will help in creative advertising, product development, pricing, and other marketing areas. Traditional marketing revolves around the key principles of Product, Price, Place, Promotion, People (or Positioning), Process and Physical Evidence (or Packaging). Surveys, interviews of consumers or focus group studies are used to evaluate the effectiveness of the marketing strategies. Studies have shown that neuroscience techniques are better than traditional methods such as survey and interviews which are subjective in nature, often biased and unable to capture the unconscious decision-making process. Also, subjective assessments are conducted pre/post facto and not during the experience. Neuroscientific studies have proven that most decision-making is primarily an emotional, impulsive or unconscious action and seldom based on rational processing of information. Thus, application of neuroscientific knowledge can help brands to make smarter decisions based on how people's brain truly reacts rather than what they say. Various sensing methodologies like EEG, fMRI, Eye-tracking, camera and physiological signals like GSR, Heart rate variability are now a days being used to understand customer behaviors, optimizing product design and packaging, developing personalized marketing strategies and enhancing customer experiences. Therefore, we expect some research works that will apply some of the human sensing technologies to solve challenges faced in the field of marketing and advertising.

YP The Next Big Thing (NBT) in Sensors

Sunday | February 22 | 18:00 – 19:00 | Debate

What is the future of sensing technology? Tell us!

This unique competition challenges you to look forward and define the Next Big Thing (NBT) in Sensors co-located with APSCON 2026, New Delhi, India. This forward-looking futuristic concept is designed to be an icebreaker for understanding new opportunities in sensors. All are welcome to attend!

YP Workshops

How to Prepare a Paper for IEEE Journals and/or Conferences
Tuesday | February 24 | 10:45 - 12:00 | Tango 1

Get the essential skills required for a successful career in academia. This session provides focused guidance on crafting high-quality manuscripts for the IEEE Sensors Council's journals and conferences.

Moderator

Joseph Andrews
University of Wisconsin – Madison, USA

Panelists

Ramgopal Rao
Former Editor with IEEE Transactions on Electron Devices, Editorial Advisory Board Member with ACS Nano Letters, AIP Applied Physics Reviews, and IEEE J-Flex

Thilo Sauter
Member of IEEE Periodicals Committee, VP Publications IEEE IES, Associate Editor-in-Chief of Sensors Letters

Mitradip Bhattacharjee
Associate Editor IEEE Sensors Letters, Editorial Board Member, IEEE IoT Journal, Guest Editor for IEEE J-FLEX and NPJ Flexible Electronics

Anja Boisen
Member of the Editorial Advisory Board for ACS Sensors and Lab on a Chip

YP Workshops

Grant Writing for Success

Tuesday | February 24 | 16:45 - 18:00 | Nucleus

Learn the fundamental strategies and best practices for securing crucial funding. This workshop is tailored specifically for the needs of junior faculty, postdoctoral researchers, and graduate students.

Moderator

Joseph Andrews
University of Wisconsin – Madison, USA

Panelists

Usha Varshney
National Science Foundation Former Program Director, USA

Parikshit Sahatiya
BITS Pilani Hyderabad, India

Dipankar Bandyopadhyay
Department of Chemical Engineering, IIT Guwahati, India

Sangeeta Semwal
Ministry of of Electronics and IT (MeitY), Government of India

Sensors Standards Opportunity

Tuesday | February 24 | 9:00 – 12:00 | Nucleus

This session invites participants to explore sensors domain's standards development opportunities while sharing an overview of its activities in context of state-of-the-art and emerging sensing technologies.

This session will provide a useful platform for networking and knowledge exchange for all the stakeholders working in the sensing standardization – assimilating the end-user industry (who use sensing systems in commercial products), the technologist (who engineer and build the sensing systems) and the academic and research community (who innovate new sensing systems).

Introduction

R Venkatesha Prasad

Chair of the Standards Committee of the IEEE Sensors Council

The IEEE P1451 family of Standards assures market reach for Sensors and Actuators

Gopalakrishna Kuppa and Jnanindra Kumar Dhar

Multi-sensory perception and recognition are vital traits for the survival of life forms. It is the base for humans to transact in the ecosystem. At the national level, it is fundamental to sovereignty and governance. In the core sector of the "Make in India program", it did not make any inroads. India is heavily dependent on the import of sensors and sensory systems. However, one positive aspect is the development of Micro Electrical Mechanical Sensors(MEMS) for applications in Space, Nuclear and Defense establishments. Automotive. All other sectors-HVAC, Agriculture, Meteorology, and environmental monitoring urgently need self-reliant sensors product portfolio. This invited talk emphasizes the need for local design and production. Further, safety and Security features at the silicon level is vital and should be mandatory. IEEE has a Standard P1451.0-2024 to address this -Smart Transducer Interface for Sensors and Actuators. The core value this standard brings is in Interconnectivity, interoperability and security of application solutions. Entrepreneurs of sensors and actuators will be assured of patronage of the end users. Buoyed by this confidence, capital inducement in this sector will see growth and can be much higher than what we see today.

Why Standards Matter: Impact and Importance of IEEE Standards

Srikanth Chandrasekaran

Almost every human on the planet today interacts with technology as part of their day and these technologies are built around a strong foundation of Standards. The IEEE Standards Association is at the forefront of developing standards across various technology sectors with very high impact standards such as WiFi (802.11), Ethernet (IEEE 802.3), Power and Energy Standards such as IEEE 1547 on Distributed Energy Resource and several others in the areas of Generation, Transmission and Distribution, Healthcare (IEEE 11073), Vehicular Technology Standards, Aerospace, Biomedical, EMI/EMC to name a few. More recent advances in technologies such as AI/ML and the digital transformation that is taking place in society and all around us has given rise to new sets of challenges that IEEE SA has been addressing to build trust in systems by focusing on cyber security, identity, and privacy and with a strong focus on socio-technical standards around Ethics of AI, Children online frameworks and Sustainability.

Sensors Standards Opportunity

Flexible and Wearable Sensors Fabrication and Standardization

Parikshit Sahatiya

Flexible and wearable sensors are rapidly advancing as essential components for continuous health monitoring, soft robotics, and personalized electronics. While significant progress has been made in developing innovative materials, device architectures, and scalable fabrication methods, the field still lacks unified standards that ensure consistent performance, safety, and interoperability. This work highlights fabrication trends in flexible sensors, including printed electronics, nanomaterial-based films, and stretchable substrates, but places particular emphasis on the urgent need for standardization. Variability in material properties, mechanical durability, biocompatibility, and signal stability often leads to inconsistent device behavior across laboratories and commercial platforms. Establishing standardized protocols for calibration, cyclic testing, environmental stability, and long-term wearability is critical for translating laboratory prototypes into reliable products. By outlining the gaps in current evaluation methods and proposing pathways for systematic benchmarking, this abstract underscores how standardization can accelerate large-scale manufacturing, regulatory approval, and widespread adoption of flexible and wearable sensing technologies.

Nanoscale materials and device simulation using Synopsys QuantumATK software

Deepak Upadhyay

In this talk, we provide a concise overview of QuantumATK's capabilities, focusing on its applications in materials science, nanotechnology, and quantum computing. We discuss its advanced simulation techniques, including density functional theory (DFT), molecular dynamics (MD), and tight-binding (TB) methods, which enable accurate predictions of electronic, structural, and dynamical properties of materials and nanostructures. Additionally, we highlight QuantumATK's support for parallel computing and its user-friendly interface, making it accessible to researchers across various disciplines. Through examples and demonstrations, we illustrate how QuantumATK facilitates the exploration of quantum mechanics and aids in the design of novel materials and devices with tailored properties for diverse technological applications.

Developing Medical Devices from real Clinical Problem

Ananya Rakesh Sharma

Medical device innovation is accelerating in response to the need for solutions that are less invasive, safer, cost-effective, and clinically practical. This need is especially urgent for patients with epilepsy who do not respond to pharmacological therapy, for whom existing alternatives are often invasive, expensive, or inaccessible. At PulseAur Neurology, a clinician-led team of end users, we began with a clear problem emerging directly from everyday patient care. This talk traces our journey from bedside observation to structured clinical research and early-stage solution development. We describe how direct patient care shaped problem definition, how clinical insight guided the evaluation of feasible approaches, and how government-supported research enabled progress toward an implementable biomedical instrumentation concept. Central to this process is the role of clinicians not merely as adopters of technology, but as drivers of innovation grounded in real clinical need. In addition to presenting a solution currently in development, we will highlight another unresolved challenge from our practice—one that persists despite technological advances. By sharing both progress and remaining gaps, this session underscores the value of clinician-driven, patient-centred innovation and invites collaboration to translate unmet needs into meaningful medical devices.

Sensor Standardisation: ETSI & OneM2M

Dinesh Chand Sharma

Presentation to share update from Europe covering Policy & Standards work by EC, ETSI & OneM2M on Sensor/IoT Standardisation covering topics of eHealth, Smart Body Area Network etc.

In-Conference Workshop

Science Without Borders: Driving Innovation through Global Partnerships

Tuesday | February 24 | 9:00 – 10:30 | Tango 1

This workshop aims to highlight the growing research collaboration between leading Indian institutes and the Tyndall National Institute, Ireland. Through short talks and a panel discussion. The session will showcase outcomes from staff and student visits, joint research efforts, INFRACHIP Transnational Access (TA) activities, and shared technology development initiatives. The workshop intends not only to present achievements to date but also to inspire deeper bilateral cooperation in the future.

Workshop Structure:

- Presentations from Indian Institutes
- Presentations from Tyndall National Institute
- Panel Discussion
- Networking and Future Collaboration Discussions

Sensorpreneur Pitch

Tuesday | February 24 | 16:45 – 18:00 | Tango 1

IEEE APSCON 2026 will hold an event called “Sensorpreneur Pitch” where entrepreneurs will be given an opportunity to network, find mentors and come up with innovative ideas at the end of the event.

Top 10 Finalists

- Jennifer J Robin, College of Engineering Cherthala, APJ Abdul Kalam Technological University (KTU), Kerala
- Tushar Baneshwar Shirke, Research Scholar, NIT Rourkela
- Sanidhya Chaturvedi, Co-Founder & Director, Folium Sensing Pvt Ltd | Final Year, Electrical Engineering, IIT Madras
- Asmita Bose, IIT Bhilai
- Bishnu Thakur, KPR Institute of Engineering and Technology, Coimbatore
- Om Kamatkar, Shri Ramdeobaba college of engineering and management b
- Sreenath Vijayakumar, Associate Professor, Dept of EE, IIT Palakkad and Founder, S4 Sensing Pvt. Ltd
- Damodar Yadagiri Tampula, Ramdeobada University, Nagpur
- Harish s.s., Amrite Vishwa Vidyapeetham Coimbatore (Student Founder)
- Shubham Saurav, IIT Bhilai

MYOSA Student Competition

Tuesday | February 24 | 15:15 – 16:45 | Pre Function Area

Welcome to the IEEE International MYOSA Event!

What is the aim of this competition?

It aims to excite submissions of innovative ideas, followed by live demonstrations of working prototypes. Some of the examples of the project proposals are given below:

- Automated lighting system of a smart housing
- Diagnostic applications based on a gesture sensor
- Automated irrigation for smart agriculture

Startup Summit

Tuesday | February 24 | 9:00 – 12:00 | Pre Function Area

Participating Startups

- Medic Tech Pvt Ltd
- Savatronic Special Lab
- Biradsiddha Engineering Services Pvt Ltd
- ZAMYT
- Revin Krishi
- Viral Vista
- Savatronic Life Tech
- QInsights Labs Pvt. Ltd.
- Satv Microgreens

Why attend?

- Showcase your innovation/product at an international platform
- One-to-one meeting with Mentors
- Networking opportunities
- Finding out what's new in STEM!

IEEE DataPort Competition

Tuesday | February 24 | 15:15 – 16:45 | Pre Function Area

We are pleased to announce the IEEE DataPort Dataset Competition, organized by IEEE DataPort. The competition aims to encourage researchers, academicians, and professionals to share high quality datasets that can advance research and innovation in sensor-based and data driven technologies.

Pre-University Students Interactive Session

Tuesday | February 24 | 16:45 – 18:00 | Tango 3

MYOSA & Agentic AI

Event Highlights

- See demo of Make Your Own Sensors Applications (MYOSA) kit. A Lego Internet of things educational kit.
- Easy plug-play and build concept to get sensor data within 15 mins.
- Learn How to build an Spy robocar using MYOSA.
- Bendy stretchy MYOSA.
- Understand AI's capabilities.
- Where AI Makes Mistakes (AI Blind Spots).
- Learn how to build AI applications without coding.
- See an AI Controlled MYOSA car.

Social Events

Welcome Reception

Join us for the welcome reception to kick off the conference—everyone is invited to attend!

Sunday | February 22 | 19:00 – 21:00

Location: Tango 1

Cultural Event & Awards Ceremony

Join us for a captivating Kathak performance by the renowned Padmashri Shovana Narayan followed by the presentation of the conference awards!

Tuesday | February 24 | 18:30 – 19:30

Location: Tango 1, 2, & 3

Gala Dinner

Join us for the gala dinner directly following the awards ceremony!

Tuesday | February 24 | 19:30 – 21:00

Location: Lawn

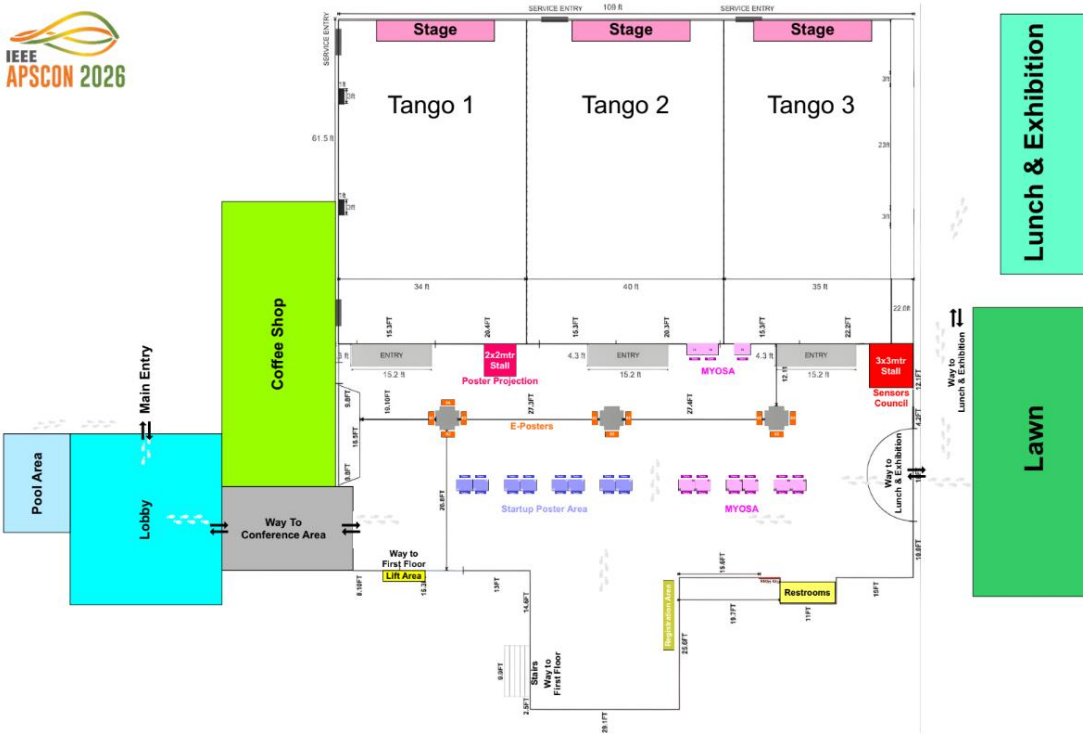
Gift Exchange and Multicultural Extravaganza See Off Tea

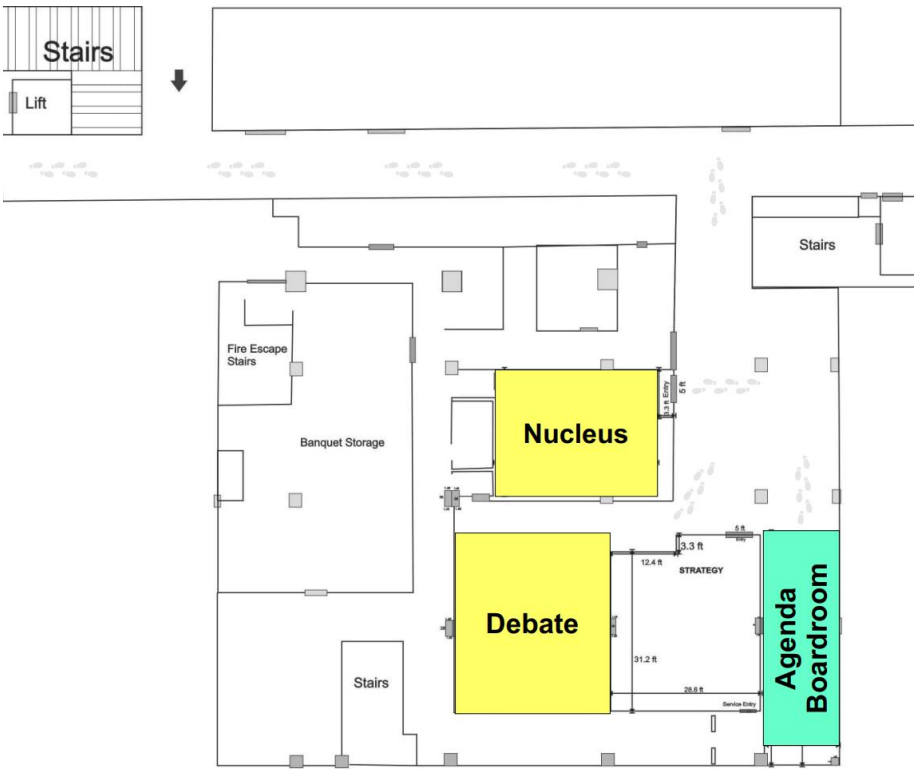
Join us for our multicultural send-off as we come together to celebrate and close out the conference!

Wednesday | February 25 | 17:00 – 18:00

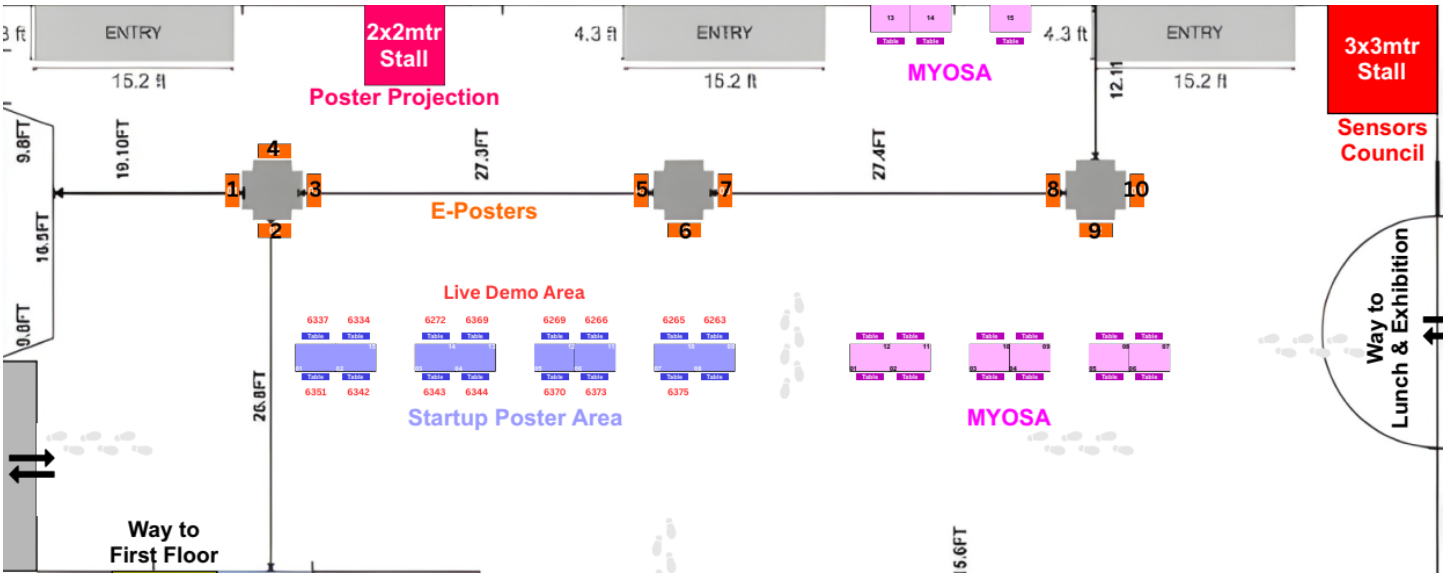
Room: Tango 2

Venue Map


IEEE APSCON 2026
Stage
Stage
Stage
Tango 1
Tango 2
Tango 3
Lunch & Exhibition
Coffee Shop
Main Entry
Pool Area
Lobby
Way To Conference Area
Way to First Floor
Lift Area
2x2mtr Stall
Poster Projection
E-Posters
MYOSA
3x3mtr Stall
Sensors Council
Startup Poster Area
MYOSA
Restrooms
Stairs
Way to First Floor
Way to Lunch & Exhibition
Lawn


Stairs
Lift
Stairs
Fire Escape Stairs
Banquet Storage
Nucleus
Debate
STRATEGY
Agenda Boardroom
Stairs

Poster Map


ENTRY
15.2 ft
2x2mtr Stall
Poster Projection
4.3 ft
ENTRY
15.2 ft
MYOSA
4.3 ft
ENTRY
15.2 ft
3x3mtr Stall
Sensors Council
9.8FT
19.10FT
27.3FT
27.4FT
12.11
16.5FT
9.0FT
1
2
3
4
5
6
7
8
9
10
E-Posters
Live Demo Area
6337 6334
6272 6369
6269 6266
6265 6263
6351 6342
6343 6344
6370 6373
6375
Startup Poster Area
MYOSA
26.8FT
Way to Lunch & Exhibition
Way to First Floor
15.6FT

PROGRAM AT A GLANCE

IEEE APSCON 2026

All Times Are Listed in IST

February 22, 2026

18:00-19:00	YP Next Big Thing *(Debate)*
19:00-21:00	Welcome Reception *(Tango 1)*

February 23, 2026

	TANGO 1	TANGO 2	TANGO 3	DEBATE	NUCLEUS
9:00-10:30	Agriculture & Food Technology I	Transportation Systems I	AI for Sensing I	Manufacturing & Automation I	Medical & Digital Healthcare I
10:30-11:00	Coffee Break *(Pre Function Area)*				
11:00-11:30	Opening Ceremony *(Tango 1, 2, & 3)*				
11:30-12:30	Keynote Speaker: Chandrasekhar Nair *(Tango 1, 2, & 3)*				
12:30-13:00	Group Photo *(Outside)*				
13:00-14:00	Lunch *(Exhibition Hanger)*				
14:00-15:00	Plenary Speaker: Takao Someya *(Tango 1, 2, & 3)*				
15:00-16:30	Poster Session/Coffee Break *(Pre Function Area)*				
16:30-18:00	Analytical & Instrumentation I	Infrastructure & Sustainability I	Robotics & Digital Twin I	Wearables & Immersive Technologies I	Medical & Digital Healthcare II

February 24, 2026

	TANGO 1	TANGO 2	TANGO 3	DEBATE	NUCLEUS	PRE FUNCTION AREA
9:00-10:30	Workshop: Science Without Borders: Driving Innovation through Global Partnerships	Medical & Digital Healthcare III	From Physical to Chemical Sensing I	Student Research Forum I	Sensors Standards Event	Startup Summit
10:30-10:45	Coffee Break *(Pre Function Area)*					
10:45-12:00	YP Research Workshop (Journal)	Manufacturing & Automation II	AI for Sensing II	Student Research Forum II	Sensors Standards Event	Startup Summit

IEEE DataPort · NRF · Anusandhan National Research Foundation (ANRF) · SERB India · CORTEVA agriscience · GETCO · TCS Research · adani Petrochemicals

Visit the Exhibit Booths in the Exhibition Hanger

PROGRAM AT A GLANCE

IEEE APSCON 2026

February 24, 2026 (cont.)

	TANGO 1	TANGO 2	TANGO 3	DEBATE	NUCLEUS	PRE FUNCTION AREA
12:30-13:30	Plenary Speaker: Yogesh Gianchandani *(Tango 1, 2, & 3)*					
13:30-14:15	Lunch *(Exhibition Hanger)*					
14:15-15:15	Keynote Speaker: Nilesh M Desai *(Tango 1, 2, & 3)*					
15:15-16:45	Poster Session/Live Demos/MYOSA Competition *(Pre Function Area)*				DataPort Competition	
16:45-18:00	Sensorpre-neur Pitch		Session for Pre-university Student Workshop	Student Research Forum III	YP Research Workshop (Proposal Writing)	
18:30-19:30	Cultural Event & Awards Ceremony *(Tango 1, 2, & 3)*					
19:30-21:00	Gala Dinner *(Lawn)*					

February 25, 2026

	TANGO 1	TANGO 2	TANGO 3	DEBATE	NUCLEUS
9:00-10:00	Keynote Speaker: Abhay Karandikar *(Tango 1, 2, & 3)*				
10:00-10:30	Coffee Break *(Pre Function Area)*				
10:30-12:00	Environment & Climate Change Monitoring I	Emerging Quantum Technologies I	From Physical to Chemical Sensing II	Agriculture & Food Technology II	Medical & Digital Healthcare IV
12:15-13:30	Environment & Climate Change Monitoring II	Manufacturing & Automation III	From Physical to Chemical Sensing III	Analytical & Instrumentation II	Medical & Digital Healthcare V
13:30-14:15	Lunch *(Exhibition Hanger)*				
14:15-15:15	Plenary Speaker: Anja Boisen *(Tango 1, 2, & 3)*				
15:45-17:00	Environment & Climate Change Monitoring III	Medical & Digital Healthcare VI	From Physical to Chemical Sensing IV	AI for Sensing III	Cognitive Science for Marketing & Behavior Analysis
17:00-18:00	Gift Exchange and Multicultural Extravaganza and See off Tea *(Tango 2)*				

IEEE DataPort · NRF Anusandhan National Research Foundation (ANRF) · SERB India · CSIR · CORTEVA agriscience · GETCO · TCS Research · adani Petrochemicals

Visit the Exhibit Booths in the Exhibition Hanger

Technical Program: Sunday, February 22

17:00 - 20:00
Registration
Room: Pre Function Area

18:00 – 19:00
YP Next Big Thing
Room: Debate

19:00 – 21:00
Welcome Reception
Room: Tango 1

8:30 - 18:00
Registration
Room: Pre Function Area

9:00 – 10:30
A1L-A: Agriculture & Food Technology I
Room: Tango 1
Session Chair(s): Kavya Dashora, IITD
Alan O'Riordan, Tyndall

9:00
Invited Talk
6364: Smart Sensors for Sustainable Agriculture, Food & Environmental Applications
Alan O'Riordan, Shane O'sullivan, Ridwan Adib
Tyndall National Institute - University College Cork, Ireland

9:30
6173: Automated Detection and Severity Estimation of Growth Anomalies in Basil with Imaging
Swagatam Bose Choudhury, Sanket Junagade, Sanat Sarangi, Dineshkumar Singh
TATA Consultancy Services Limited, India

9:45
6205: Adaptive Estimation of Yield and Impact for Barley with Varying Ambient Conditions
Vidit Patil, Rushikesh Kulat, Sanat Sarangi, Dineshkumar Singh
TATA Consultancy Services Limited, India

10:00
Sensors Letters Paper
6406: Polymer-Based Flexible Multi-modal Sensor for Plant Health Monitoring
Dhanranjan Kumar, Shivansh Singh, Mitradip Bhattacharjee
Indian Institute of Science Education and Research Bhopal, India

9:00 – 10:30
A1L-B: Transportation Systems
Room: Tango 2
Session Chair(s): Pankaj Kumar, DAIICT
Hussain kachwala, IIT Delhi

9:00
Invited Talk
6352: Autonomy at Scale: From Intelligent Vehicles to Trusted Mobility Ecosystems Across Air and Ground
Neeli Prasad
SmartAvatar B.V., Netherlands

9:30
6163: Fusion of Geometric and Kinematic Features for LiDAR-Based Vehicle Classification
Muni Srinivasulu B, Diya S Dileep, Bijo Sebastian, Lelitha Vanajakshi
Indian Institute of Technology Madras, India

9:45
6216: TranSight: Dual-Attention Spatio-Temporal Network for Anomaly Detection in Intelligent Transportation Surveillance
Rakesh Kumar, Arvind Arvind, Manish Kumar Sharma, Sumeet Saurav, Sanjay Singh
CSIR-Central Electronics Engineering Research Institute, India

10:00
Sensors Letters Paper
6329: Digital Twin for Drone Indoor Autonomous Navigation
Jaswanth Kumar M, Satyam Singh, Ahnaf Saneen, Della Thomas
Indian Institute of Information Technology (IIIT) Kottayam, India

10:15
Invited Journal Author
6385: A Hybrid CNN–BiLSTM Approach for Wildlife Detection Nearby Railway Track in a Forest
Devendra Singh Parihar, Ripul Ghosh
CSIR-Central Scientific Instruments Organisation, India

9:00 – 10:30
A1L-C: AI for Sensing I
Room: Tango 3
Session Chair(s): Soma Bandyopadhyay, TCS
Prasanta Guha, IIT KGP

9:00
Invited Talk
6353: AI for Sensing
Arpan Pal, Soma Bandyopadhyay, Arijit Ukil
TATA Consultancy Services Limited, India

9:30
6015: Throughput-Aware Mission Optimization for UAV-Enabled Data Collection in IoT Networks
Sonam Badjatya, Santosh Shah, Sunil Kumar
LNM Institute of Information Technology, India

9:45
6288: TinyML Based Detection of Alcohol Induced Abnormalities Using ECG Signals and Metadata
Sujit Shinde{2}, Sushrut Lingayat{2}, Karan Bhavsar{2}, Sanjay Kimbahune{2}, Avik Ghose{2}, Debabrata Roy{1}
{1}Rabindranath Tagore International Institute of Cardiac Sciences, India; {2}TATA Consultancy Services Limited, India

10:00
Invited Journal Author
6315: Predictive Modeling of Osteoporosis: A Machine Learning Approach Based on Electromagnetic Signals
Nishtha Shrivastava, Debalina Ghosh, Prasant Kumar Sahu
Indian Institute of Technology Bhubaneswar, India

10:15
6350: Non-Invasive Screening of Prediabetes Using VOC Nanosensors: Classification of Synthetic Breath with Machine Learning
Paramita Kar Choudhury{2}, Tanushree Banerjee{2}, Souradeep Roy{1}, Mohd Abdullah Siddiqui{2}, Prasanta K Guha{1}, Avik Ghose{2}, Sanjay Kimbahune{2}, Arpan Pal{2}
{1}Indian Institute of Technology Kharagpur, India; {2}TATA Consultancy Services Limited, India

9:00 – 10:30
A1L-D: Manufacturing & Automation I
Room: Debate
Session Chair(s): Shubhra Gangopadhyay, The University of Missouri
Han Shao, Tyndall

9:00
Invited Talk
6357: An Uncertainty Quantified Decision Perspective on Process Design, Development, and Modelling of Advanced Oxidation Process-Based Combined Industrial Dye-Wastewater Treatment Plant
Shantanu Bhattacharya{1}, Kirtiman Singh{2}
{1}CSIR-Central Scientific Instruments Organisation, India; {2}UPES, Dehradun, India

9:30
6020: Impact of Different Interfaces on Trust During Authority Shifting in Collaborative Robotics
Matteo Menolotto{2}, Aryan Gandhi{1}, Ashok Kumar Pandey{1}, Brendan O'Flynn{2}
{1}Indian Institute of Technology Hyderabad, India; {1}Indian Institute of Technology Hyderabad, Ireland; {2}Tyndall National Institute / University College Cork, Ireland

9:45
6032: Validation of Surface Virtual Sensors for Plastic Injection Molds
Fábio Amaral{1}, Luis Piardi{2}, Paulo Leitão{2}, Roberto Neli{1}
{1}Federal University of Technology – Paraná, Brazil; {2}Research Centre in Digitalization and Intelligent Robotics (CeDRI),Instituto Politécnico de Bragança, Portugal

10:00
6051: Intelligent Machine Condition Monitoring Using Triboelectric Vibration Sensor
Aparna Sinha{2}, Debanjan Das{1}
{1}Indian Institute of Technology Kharagpur, India; {2}Indian Institute of Technology Roorkee, India

10:15
Sensors Letters Paper
6401: Novel GNSS-INS Integration Scheme with UKF-Based Dynamic IMU Calibration and Dual-layer Design for Reliable Navigation
R C Ajaykrishna, Banibrata Mukherjee
IIT Kharagpur, India

Technical Program: Monday, February 23

9:00 – 10:30
A1L-E: Medical & Digital Healthcare I
Room: Nucleus Hall
Session Chair(s): Gautam Bacher, BITS PILANI GOA
Dipankar Bandyopadhy, IIT Guwahati

9:00
Invited Talk
6354: Advancing Electrochemical Transistors from Lab to Field
Chirasree Roychaudhuri, Piyali Mukherjee, Usha Rani Dash, Morza Rohan Ahamed
Indian Institute of Engineering Science and Technology Shibpur, India

9:30
6055: An Optimized Autoencoder Based Microwave Imaging Approach for Brain Anomaly Detection
Naibedya Pattnaik, Vedula Kiran Bharadwaj, Arijit Chowdhury, Anwesha Khasnobish, Tapas Chakravarty
TATA Consultancy Services Limited, India

9:45
6059: UV-Induced Carrier Dynamics in Isoprene Sensors: Insights from STM and Experimental–Theoretical Analysis
Akshaya M V{1}, Amala K{1}, Suja K J{2}, Palash Kumar Basu{1}
{1}Indian Institute of Space Science and Technology, India; {2}National Institute of Technology Calicut, India

10:00
6064: Design and Development of Miniaturized Cytology Scanner for Resource-Limited Settings
Koushik Chandra Chenna{3}, Anujkumar Dayaram Prajapati{3}, Griffin Weston{2}, Christine Surrette{2}, Narayana Subramaniam{1}, Ravikanth Manyam{4}, Fiona Ginty{2}, Hardik Jeetendra Pandya{3}
{1}Aster International Institute of Oncology, India; {2}GE HealthCare Technology & Innovation Center, United States; {3}Indian Institute of Science, India; {4}Vishnu Dental College, India

10:15
6087: An Interpretable Feature Framework for Analyzing Multiclass Sleep Apnea from ECG Signals
Shayan Roy{2}, Rajobrata Dasgupta{1}, Ankan Mondal{1}, Biswarup Ganguly{2}
{1}Jadavpur University, India; {2}National Institute of Technology Silchar, India

10:30 – 11:00
Coffee Break
Room: Pre Function Area

11:00 – 11:30
Opening Ceremony
Room: Tango 1, 2, & 3

11:30 – 12:30
Keynote Speaker: Chandrasekhar Nair, Director & Chief Technology Officer (CTO) Molbio Diagnostics
Room: Tango 1, 2, & 3
Session Chair: Kavya Dashora, IITD

12:30 – 13:00
Group Photo
Room: Outside

13:00 – 14:00
Lunch
Room: Exhibition Hanger

14:00 – 15:00
Plenary Speaker: Takao Someya
Room: Tango 1, 2, & 3
Session Chair: Ravinder Dahiya, Northeastern University

15:00 – 16:30
Posters: A2P-F: Agriculture & Food Technology III
Room: Pre Function Area, Screen 1
Session Chair(s): Kavya Dashora, IITD
Dinesh Singh, TCS

15:00
6009: Real-Time Crop Sensing and Localization for Precision Agriculture
Rakesh M D{1}, Rohith Rajesh{2}, Rudraswamy S B{1}
{1}SJCE, JSS Science and Technology University, India; {2}Vellore Institute of Technology - Chennai, India

15:10
6115: Smart Scale
Pranav Kaul{1}, Nitin Yadav{1}, Sugandh Kumar{1}, Aniket Gupta{2}, Anuj Grover{1}
{1}Indraprastha Institute of Information Technology Delhi, India; {2}Manipal University Jaipur, India

15:20
6184: A Lightweight CNN Framework with SAM-Based Preprocessing for Luffa Disease Detection
Manish Kumar Sharma, Sumeet Saurav, Sanjay Singh
CSIR-Central Electronics Engineering Research Institute, India

15:30
6238: A Disposable Sensor Combined with LDA-SVM for Rapid Detection of Milk Fat Percentage and Water Adulteration
Pooja Prasad, Asmita Bose, Avishek Adhikary
Indian Institute of Technology Bhilai, India

15:40
Sensors Letters Paper
6300: In-Vitro and In-Vivo EIS-Based Analysis and Validation of Salt Stress Response in Pusa Basmati 1 Rice
Sohom Adhikari, Rishikesh Datar, Sandhya Mehrotra, Rajesh Mehrotra, Gautam Bacher
BITS Pilani KK Birla Goa Campus, India

15:50
Sensors Letters Paper
6386: Graphene/PEDOT:PSS Hybrid Ink Based Flexible and Eco-Friendly Humidity Sensor for Early Plant Leaf Stress Monitoring
Ajay Beniwal{1}, Temitope Odedeyi{2}, Izzat Darwazeh{2}
{1}Dhirubhai Ambani University, India; {2}University College London (UCL), London, UK, United Kingdom

16:00
Sensors Letters Paper
6387: Quality Assessment and Valuation of Made-Tea Using ROI Segmentation and Spectral–TDS Fusion
Sanket Junagade, Swagatam Bose Choudhury, Sanat Sarangi, Dineshkumar Singh
TATA Consultancy Services Limited, India

16:10
Sensors Letters Paper
6400: Magnetic Characterization and an Arctan-based Multi-Component Nonlinear Modelling of Mangifera Indica L. Tissues for PBC Applications
Gunjan Kumari, Nagendra Prasad Pathak
IIT Roorkee, India

16:20
Sensors Letters Paper
6397: Flexible MoS2-Based Ion-Selective Sensor with Valinomycin Membrane for In-Situ Detection of Soil Potassium (K+) Ions
Prajjwal Shukla, Rahul Gond, Brajesh Rawat
IIT Ropar, India

15:00 – 16:30
Posters: A2P-G: Analytical Instrumentation III
Room: Pre Function Area, Screen 2
Session Chair(s): Rajan Jha, IIT Bhubaneswar

15:00
6077: FFT and Chirp-Z Transform Based Signal Processing for Precision FMCW RADAR Level Measurement
Shyam Sundar Jena{2}, Manjiri Pande{1}, Sandip Shrotriya{1}, Amitava Roy{1}
{1}Bhabha Atomic Research Centre, India; {2}Homi Bhabha National Institute, India

15:10
6079: Physics Inspired Approach for Enhancing Underwater Images Using Virtual Polarizer
Alok Rajput, Vidhi Khakholia, Rakib Rizuwan Riyad, Shayan Roy, Biswarup Ganguly
National Institute of Technology Silchar, India

15:20
6136: Design and Simulation of a MEMS Based Non-Thermal Hair Type Airflow Sensor
Sudheera Kariyawasam{2}, Vishwa Kannangara{4}, Vaibhav Ramalingam{1}, Sanjaya Senarathna{3}, Ranjith Amarasinghe{3}, Dumith Jayathilaka{3}
{1}APJ Abdul Kalam Technological University, India; {2}Colorado State University, United States; {3}University of Moratuwa, Sri Lanka; {4}University of Southern Denmark, Denmark

15:30
6168: Nanotechnology-Assisted of Methylene Sensing and Remediation Blue in Water
Isabela Fernandes Silva Reis{1}, Neoli Lucyszyn Suckow{2}, José Luís Fabris{1}, Marcia Muller{1}
{1}Federal University of Technology – Paraná, Brazil; {2}Pontifícia Universidade Católica do Paraná, Brazil

15:40
6172: 3D Printed Automated Optical Delay Stage with Gear Reduction Enabled Sub-Micron Microstepping
Shailendra Prajapati, Muthuserpi Sasikumar, Srikanth Sugavanam
Indian Institute of Technology Mandi, India

15:50
6204: High Precision Direct Detection-Based Automated Measurements of the Verdet Constant Using 3D Printing Technologies
Anand Mohan{2}, Shailendra Prajapati{2}, Srikanth Sugavanam{2}, Erwin Fuhrer{1}
{1}Indian Institute of Technology Guwahati, India; {2}Indian Institute of Technology Mandi, India

16:00
6296: Multi-View Panoramic Thermal Infrared Monitoring with Edge Analytics for Resource-Constrained Sensing
Manjeet Singh{3}, Gurkirat Singh{1}, Neeraj Guleria{2}, Guramandeep Singh{2}, Aparna Akula{3}
{1}Chitkara University Institute of Engineering & Technology / Chitkara University, India; {2}CSIR-Central Scientific Instruments Organisation, India; {3}CSIR-Central Scientific Instruments Organisation, Academy of Scientific and Innovative Research, Indi

16:10
Sensors Letters Paper
6283: Novel Al2O3/GO Nanocomposite-Based Highly Sensitive Optical Fiber Humidity
Subham Koley, Sunil Khijwania
Indian Institute of Technology Jodhpur, India

16:20
6297: Design and Optimization of Ni-Cr Microheaters Structures with Thickness Variation for Low- Power Operation
Ujjwal Singh{2}, Prachi Soni{2}, Aditya Joshi{1}, Bhawna Pareek{4}, Shailesh K Moussalpuriya{3}, Ajay Agarwal{2}
{1}Indian Institute of Information Technology, Bhagalpur, India; {2}Indian Institute of Technology Jodhpur, India; {3}Medical Technology Centre, Indian Institute of Technology Jodhpur, India; {4}Mody University of Science and Technology, India

15:00 – 16:30
Posters: A2P-H: Analytical Instrumentation IV
Room: Pre Function Area, Screen 3
Session Chair(s): Shahid Malik, IIT Delhi

15:00

Invited Journal Author
6308: Design of Reconfigurable Radar Signal Processor for Frequency-Modulate Continous Wave Radar
Yunseong Sim{1}, Jinmoo Heo{1}, Yongchul Jung{2}, Seongjoo Lee{3}, Yunho Jung{1}
{1}Korea Aerospace University, Korea; {2}Korea Electronics Technology Institute, Korea; {3}Sejong University, Korea

15:10

Sensors Letters Paper
6321: Numerical Modeling of Graphene Nanoribbons Salisbury Screen on CaF2 Substrate for Near-Unity Mid-Infrared Absorption
Vinod Sharma, Saurabh Kishen, Naresh Kumar Emani
Indian Institute of Technology Hyderabad, India

15:20
6347: Optimization of Low-Noise Amplifier Circuits for Enhanced Sensor Signal Integrity
Dayarnab Baidya, Athul Krishnan, Mitradip Bhattacharjee
Indian Institute of Science Education and Research Bhopal, India

15:30

Sensors Letters Paper
6389: Spectral Line Enhancement for Noise-Resilient Passive Sonar Detection using Dual-Attention Guided Wavelet domain FISTA-Net
Riya Rani Ss, Sumit Datta
Digital University Kerala, India

15:40

Sensors Letters Paper
6408: Wet Bulk Micromachining of Si{110} with IPA- added NH_4OH Etchants for MEMS-Based Sensors application
Priyanka Dewangan, Vishal Sahu, Prem Pal
Indian Institute of Technology Hyderabad, India

15:50

Sensors Letters Paper
6416: High-performance Broadband Photodetector based on Uniform WS 2 Micro- Squares
Vaibhav Kandwal{1}, Pukhraj PRAJAPAT{1}, Gurpavit Kaur Bhatia{2}, Ajay Bhatt{1}, Govind Gupta{1}
{1}National physical laboratory New Delhi, India; {2}SRM University, Kattankulathur, Chennai, Tamil Nadu, 603203, India., India

15:00 – 16:30
Posters: A2P-J: Transportation Systems & AI for Sensing
Room: Pre Function Area, Screen 4
Session Chair(s): Hussain Kachwala, IIT Delhi

15:00
6072: An IoT-Integrated IMU Sensor Node for Affordable Crash Detection and Emergency Notification
Alaa Aldin Ghazal, S. G Ganpule
Indian Institute of Technology Roorkee, India

15:10
6141: Enhancing Electric Vehcile Route Transparency Using Explainable AI Integrated Quantum Deep Reinforcement Learning Framework for Green Transportation
Shweta Jain{2}, Prashant Kumar{2}, Rishit Aggarwal{1}, Dr. Rajni{3}, Bahareh Kamranzad{4}
{1}Indian Institute of Technology Patna, India; {2}National Institute of Technology Delhi, India; {3}O.P. Jindal Global University, India; {4}University of Strathclyde, United Kingdom

15:20

Sensors Letters Paper
6399: Differential Self-Attention in 1D CNNs for Driver Inattention Detection Using Multimodal Biosignals
Pavan Kaveti, P Satyajith Chary, Ankit Singh, Digvijay S Pawar, Nagarajan Ganapathy
Indian institute of technology Hyderabad, India

15:30

Sensors Letters Paper

6398: A Novel Multi-Layer Functional Brain Connectivity-Based Motor Imagery Classification Model Using EEG Sensor Data

Sudip Modak, Suman Halder, Soumya Chatterjee
National Institute of Technology Durgapur, India

15:40

Sensors Letters Paper

6404: Precision-Driven AI Smartphone-Based Sensor System for Fingernail-Based Non-Invasive Disease Detection

Neha Ingole{2}, Richa Khandelwal{1}
{1}RBU, India; {2}RCOEM, India

15:50

6078: Design and Implementation of Low-Cost Highly Sensitive Portable Microwave Sensor for Detection of Permittivity of Edible Oils

Supratim Mondal{1}, Sagnik Adhikary{1}, Ch Raghavendra{2}, A. Jhansirani{2}, Gobinda Sen{1}
{1}Institute of Engineering and Management, India; {2}Siddhartha Academy of Higher Education, India

16:00

6017: Learning Based Motion Planning of a 6-DOF Manipulator by Using a Neural Network

Akanksha Dwivedi, Ujjwal Singh, Ajay Agarwal
Indian Institute of Technology Jodhpur, India

15:00 – 16:30
Posters: A2P-K: Environment & Climate Change Monitoring IV
Room: Pre Function Area, Screen 5
Session Chair(s): Tapas Chakravarty, Institute of Engineering and Management, Kolkata
Mitradip Bhattacharjee, IISER Bhopal

15:00

6061: Dual-Mode Optical Detection of Cobalt Ions Using Silica Nanoparticles

Priyanka Shedbale, Nirmal Punjabi, Suparna Mukherji, Soumyo Mukherji
Indian Institute of Technology Bombay, India

15:10

6069: Low Level Detection of CH3OH Sensing via MoS2/PANI Heterojunction Transistor

Shivangi Srivastava, Sajal Agarwal
Rajiv Gandhi Institute of Petroleum Technology, India

15:20

6150: Design and Analysis of High-Resolution Airborne SAR Sensor at X Band Using LFM for Remote Sensing Applications

Nagaraju Chintha{2}, P Vinod Kumar{2}, Bhukya Venkanna Naik{1}
{1}Indian Institute of Information Technology, Nagpur, India; {2}Rajiv Gandhi University of Knowledge Technologies, Nuzvid, India

15:30

6206: A Study on Remote Sensing and Smart Sensors for Urban Air Quality and Carbon Footprint Management

Chandni Keswani{4}, Shyam Sunder Agrawal{3}, Shohrat Fatima{1}, V. Seema Vinod{2}, Aswathy Menon{5}, Ravi Kumar{3}
{1}Banaras Hindu University Varanasi, India; {2}Gandhigram Rural Institute Gandhigram, India; {3}Lovely Professional University, India; {4}Shri Vaishnav Institute of Management and Science Indore, India; {5}Shri Vaishnav Vidyapeeth Vishwavidyalya, India

15:40

Sensors Letters Paper

6382: Label-Free Electrochemical Detection of Acetaminophen Using a Gold Nanoparticle-Modified Stainless Steel Electrode

Nikila Nair{1}, Soniya Varghese{2}, Afra Aboobacker{3}, Jose Joseph{1}
{1}Digital University Kerala, India; {2}India Graphene Engineering and Innovation Centre, India; {3}Kerala University of Digital Sciences, Innovation and Technology, India

15:50

Sensors Letters Paper

6395: Large-scale fabrication of fully printed, photoactivated Au decorated Tin Oxide based room-temperature NO2 sensors with ultra-high response on paper substrates

Siri Chandana Amarakonda, Manvendra Singh, Mohammed Hadhi Pazhaya Puthanveettil, Subho Dasgupta
Indian Institute of Science, India

16:00

Sensors Letters Paper

6393: Analysis of Mxene and Mxene/ZnO Composite based I-V Sensing for Antibiotic Detection

Seyadu Abuthahir, Manikandan M, Yuthika R, M Lavanya Priyadharshini, Manikandan E
Vellore Institute of Technology - Chennai Campus, India

16:10

Sensors Letters Paper

6409: Comparative Chemiluminescence Sensing of Hydrogen Peroxide Using a Miniaturized Chip using Cobalt Catalyst versus Electrogenerated Emission at a Graphite Electrode

Kavita Manekar
Shri. Ramdeobaba College of Engineering and Management, India

16:20

Sensors Letters Paper

6412: Electromechanical and Acoustic Characterization of a Capacitive Micromachined Ultrasonic Transducer in Multienvironment Conditions

Bijit Kumar Nath{1}, Reshmi Maity{1}, Niladri Pratap Maity{2}
{1}Mizoram University (A Central University), India; {2}NITTTR Kolkata, India

15:00 – 16:30
Posters: A2P-L: Infrastructure & Sustainability II
Room: Pre Function Area, Screen 6
Session Chair(s): Siddharth Tallur, IIT Bombay
Madhukant Sharma, DA-IICT

15:00

6037: Design and Implement of Advanced Algorithm in MATLAB for Efficient Solar Dish Orientation

Arnav Sharma, Purnima Hazra
Shri Mata Vaishno Devi University, India

15:10

6063: Low-Cost AI-Driven Footfall Monitoring System with Enhanced Detection Range for Smart City Applications

Arnav Sharma, Solihah Jan, Satyendra Kumar Singh, Bhawani Singh, Purnima Hazra
Shri Mata Vaishno Devi University, India

15:20

6256: A Robust IoT Architecture for Real-Time Battery and Environmental Monitoring in Coal-Mine Infrastructure

David Tandel{1}, Musab Bin Khaleeq{1}, Rahul Mishra{2}, Tapas Kumar Maiti{1}, Sujay Kadam{1}
{1}Dhirubhai Ambani University, India; {2}Indian Institute of Technology Patna, India

15:30

Invited Journal Author

6319: Fully Waste-Derived Triboelectric Nanogenerators for Real-Time Activity Tracking

Ajay Saini, Manas Tiwari, Trapti Mudgal, Deepak Bharti
Malaviya National Institute of Technology, Jaipur, India

15:40

Sensors Letters Paper

6396: Design and Fabrication of Anthracite Coal-Derived Graphene Oxide Humidity Sensor for Moisture Sensing in Transformer Oil

Vikash Ranjan{2}, Prasenjit Basak{2}, Shailesh Kumar{1}
{1}Arka Jain University, Jharkhand, India; {2}Thapar Institute of Engineering and Technology, Patiala, India

15:50

Sensors Letters Paper

6405: Sustainable, Flexible and Ambient Temperature Operated Polyaniline-based Chemiresistive Ammonia Sensor with Eco-Friendly Design

Ajay Beniwal{1}, Rahul Gond{2}, Xenofon Karagiorgis{3}, Brajesh Rawat{2}, Chong Li{3}
{1}Dhirubhai Ambani University (formerly DA-IICT), Gandhinagar, India, India; {2}Indian Institute of Technology, Ropar, Rupnagar, India, India; {3}University of Glasgow, Glasgow, UK, United Kingdom

16:00

Sensors Letters Paper

6414: A LoRa-Based V2I System for Collision Warning at Blind-Turn

Shubham Gupta{2}, Pratyush Gupta{2}, Theajus Prakash{2}, Ramendra S. Baoni{1}, Anuj Grover{2}
{1}Bisquare Systems Pvt. Ltd., India; {2}IIIT Delhi, India

16:10

6418: A Multi-Modal Communication Framework for Enhanced Vehicular Coordination and Aerial Surveillance

Annu Annu{1}, Syam Narayanan S{2}, Rajalakshmi Pachamuthu{2}, Shaik Jani Basha{2}, Vijay Kumar Gudimetla{2}
{1}Indian Institute of Technology Hyderabad, India; {2}NM-ICPS TiHAN Foundation, Indian Institute of Technology Hyderabad, India

15:00 – 16:30

Posters: A2P-M: Wearables & Immersive Technologies II

Room: Pre Function Area, Screen 7

Session Chair(s): Pankaj Kumar, DAIICT

15:00

6038: Accurately Quantified Heart Rate Variability Through Non-Contact Wearable Radar Sensing

Zainab Riaz{2}, Stephanie Pella{2}, Neil Tom{2}, Mark Halaki{3}, Martin Ugander{3}, Tuguy Esgin{1}, Mehmet Rasit Yuce{2}
{1}Curtin University, Australia; {2}Monash University, Australia; {3}University of Sydney, Australia

15:10

6047: Development of a Wearable Vibrator-Accelerometer System for Early Breast Cancer Detection

Adhinarayan Ashok{1}, Jai Aadhithya Ramesh{1}, Sanjam Bedi{1}, Taha Ashraf Ali Shaikh{1}, Daqsh Srivastava{1}, Adarsh Ganesan{1}, Madhurendra Mishra{2}
{1}Birla Institute of Technology and Science, Pilani - Dubai, U.A.E.; {2}Sri Guru Tegh Bahadur Khalsa College, University of Delhi, India

15:20

6089: AI-Driven Generation of Cortisol-Binding Peptides for Non-Invasive Stress Detection

Sucharita Banerjee{1}, Dharmendr Kumar{3}, Parijat Deshpande{3}, Sanjay Kimbahune{3}, Ajay Singh Panwar{2}
{1}IITB-Monash Research Academy, Tata Consultancy Services Limited, India; {2}Indian Institute of Technology Bombay, India; {3}TATA Consultancy Services Limited, India

15:30

6104: Multi-Command Control of Prosthetic Arm Using a Low-Cost EEG Blink Sequencer

Anukha Vusirikala{1}, Simarjeet Saini{2}
{1}Castilleja School, United States; {2}University of Waterloo, Canada

15:40

6109: Multi-Sensor Smart Insole System: Design, Fabrication and Evaluation for Real-Time Gait Analysis

Yash Agarwal, Karanjeet Singh, Rayhankhan Pathan M, Anuj Grover
Indraprastha Institute of Information Technology Delhi, India

15:50

6178: Wearable Fingertip PPG Compared to Wrist PPG for Emergency Alerting via Bluetooth or Cellular

Henry Tran{2}, Jamal Bahari{2}, Alex McGovern{1}, Carissa Ruscheinsky{1}, Justin Tsang{1}, Siddiqui Hakim{1}, Chandana Unnithan{1}, Bonnie Gray{2}
{1}Lifeguard Digital Health Inc., Canada; {2}Simon Fraser University, Canada

16:00

6179: Graphene Based Flexible Piezoresistive Strain Sensor

Remya Kunjuveettil G, Aleena Kabeer, Malavika Prasad S, Alex James
Digital University Kerala, India

16:10

6189: Design of Wearable and Wireless Motion Capture System for Biomechanical Application

Prasanna P, Sanjeev R, Celestin Jerald A
SASTRA Deemed to be University, India

16:20

Sensors Letters Paper

6388: A CSRR–IDC Based Microwave Biosensor for Non-Invasive Creatinine Detection

Teja Jetti{1}, Andleeb Zahra{1}, Swarnim Sinha{1}, Syed Azeemuddin{2}, Zia Abbas{1}
{1}International Institute of Information Technology, Hyderabad, India; {2}Pennsylvania State University, The Behrend College, United States

16:30 – 18:00
A3L-A: Analytical & Instrumentation I
Room: Tango 1
Session Chair(s): Shahid Malik, IIT Delhi
Rajan Jha, IIT Bhubaneswar

16:30
Invited Talk
6384: Tellurene Wearable Sensors
Wenzhuo Wu
Purdue University, United States

17:00
6065: Dual-Frequency Ultrasonic Method for Wide-Range, High-Precision Non-Contact Vibration Measurement
Haneesh Sankar T P, Nithya P, Rajesh K R
Centre for Development of Advanced Computing, India

17:15
6214: A Machine Learning Approach to Digital Dental Shade Matching with Ambient Light Mitigation
Yusma Hilal{1}, Devender Nath Maurya{1}, Mohammad Ehshan Khan{1}, Saba Shaikh{1}, Ruchika Nawal{2}, Vidhi Bhalla{3}, Amit Malhotra{3}, Shahid Malik{1}
{1}Indian Institute of Technology Delhi, India; {2}Maulana Azad Institute of Dental Science, India; {3}Maulana Azad Institute of Dental Sciences, India

17:30
6022: Effect of Activation Function on Model Performance for Gearbox Fault Diagnosis
Husain Kanchwala
Indian Institute of Technology Delhi, India

17:45
6082: Real-Time Onboard Detection of Hazardous Gasses Using Electrochemical Fingerprinting
Tharnath Bagirathan, Raven Reitstetter, Dustin Reitstetter, Pierre-Emmanuel Gaillardon
University of Utah, United States

16:30 – 18:00
A3L-B: Infrastructure & Sustainability I
Room: Tango 2
Session Chair(s): Siddharth Tallur, IIT Bombay
Madhukant Sharma, DA-IICT

16:30
Invited Talk
6391: From sensors to sustainable systems: Field-deployable intelligence for infrastructure and public health
Siddharth Tallur
IIT Bombay, India

17:00
6091: Environment- Friendly Flexible Perovskite Solar Cells for Self- Powered IoT Devices Under Indoor Lighting
Nikhil Handa, Neeraj Neeraj, Navneet Gupta
Birla Institute of Technology and Science, Pilani, India

17:15
6180: Towards a Digital Twin of HEMM Fleet Operations: A Sensor-System Prototype and Simulation Framework for Monitoring in Open-Pit Coal Mines
Musab Bin Khaleeq, Jalak Vyas, Saarthak Jindal, David Tandel, Tapas Kumar Maiti, Sujay Kadam
Dhirubhai Ambani University, India

17:30
6187: Scalable Fabrication of Double-Sided Laser-Induced Graphene for High-Sensitvity Triboelectric Pressure Sensors
Tausif Kamal, Faizan Tariq Beigh, Ankur Goswami, Dhiman Mallick
Indian Institute of Technology Delhi, India

17:45
Sensors Letters Paper
6390: Water Soluble Flexible Substrate Based Humidity Sensor for Transient Sensing
Mohammed Hadhi Pazhaya Puthanveettil, Siri Chandana Amarakonda, Subho Dasgupta
Indian Institute of Science Bengaluru, India

16:30 – 18:00
A3L-C: Robotics & Digital Twin I
Room: Tango 3
Session Chair(s): Sujay Kadam, DAIICT
Shubhendu Bhasin, IIT Delhi

16:30
Invited Talk
6355: Wearable Robotics: Empowering Mobility, Restoring Lives
Shubhendu Bhasin
Indian Institute of Technology Delhi, India

17:00
6048: TihanFly: A Multi-Drone Ground Control Station for Scalable UAV Operations
Pavan Sai Kumar Thummala{1}, Mohan Kumar J{2}, Syam Narayanan S{2}, Tarun Kumar Bodnayakuni{1}, Raju Santhani{1}, Rajalakshmi Pachamuthu{1}
{1}Indian Institute of Technology Hyderabad, India; {2}NMCIPS TiHAN Foundation, Indian Institute of Technology Hyderabad, India

17:15
6071: Design and Development of a Unmanned Surface Vehicle (USV) for Sludge Quantification and Inland Water Quality Assessment
Dwivedula Narasimha Sri Sourabh, Vinayak Maharshi, Balakumaran M, Himabindu Allaka
Indian Institute of Technology Hyderabad, India

17:30
6084: Enhancing Human–Robot Collaboration Based on Hand Tracking Sensing and Cobot Speed Control
Luis Piardi, Alexande Carelli Borsoi, Paulo Leitão
Research Centre in Digitalization and Intelligent Robotics (CeDRI),Instituto Politécnico de Bragança, Portugal

17:45
6199: A Simulation Driven Design Methodology of Piezoelectric Tactile Sensors for 3D Force Detection
Kalash Chandakapure{2}, Paramita Kar Choudhury{2}, Ashutosh Kumar Tripathi{1}, Biswanath Panda{1}, Baquer Mazhari{1}, Y N Mohapatra{1}, Ranjan Dasgupta{2}, Titas Bera{2}
{1}Indian Institute of Technology Kanpur, India; {2}TATA Consultancy Services Limited, India

16:30 – 18:00
A3L-D: Wearables & Immersive Technologies I
Room: Debate
Session Chair(s): Mohan Kumar, IIT Hyderabad
Ravinder Dahiya, IEEE

16:30
Invited Talk
6341: Technology in Geriatric Care
Supratik Gupta
Support Elders Pvt Ltd, India

17:00
6053: A Comparative Study on a Wearable Non-Invasive Hydration Monitoring System Based on Multifrequency Bioimpedance Analysis with Commercial and Predictive Models
Srividhyasakthi Vijayakumar{1}, Govind U{2}, Amaresh S{2}, Swaminathan Sundararaman{1}, Hardik Jeetendra Pandya{1}
{1}Indian Institute of Science, India; {2}Indian Institute of Science, Bangalore, India

17:15
6102: Miniaturized Dual-Band Patch Antenna for Reliable Sensing Applications
Soham Karak{1}, Swapnaleena Biswas{1}, Sneha Shaw{1}, Ch Raghavendra{2}, A Jhansirani{2}, Gobinda Sen{1}
{1}Institute of Engineering and Management, India; {2}Siddhartha Academy of Higher Education, India

17:30
6186: Lithography-Free Multiband Flexible Graphene Antenna for Wearable Biomedical Applications
Sujoy Paul, Faizan Tariq Beigh, Dibyajyoti Mukherjee, Dhiman Mallick
Indian Institute of Technology Delhi, India

17:45
6200: Double-Sided Laser-Induced Graphene Memristors for Thermally Tunable Neuromorphic Computing
Soha Maqbool Bhat, Faizan Tariq Beigh, Dhiman Mallick
Indian Institute of Technology Delhi, India

16:30 – 18:00
A3L-E: Medical & Digital Healthcare II
Room: Nucleus Hall
Session Chair(s): Gautam Bacher, BITS PILANI GOA
Dipankar Bandyopadhy, IIT Guwahati

16:30
6092: Birefringence Quantification Based on Polarization Integrated Digital Holographic Microscopy
Mirza Sameerullah Baig, Partha Pratim Pal, Alan Ranjit Jacob, Renu John
Indian Institute of Technology Hyderabad, India

16:45
6112: Digital Phantom for Full Angle Spatial Compound Imaging Simulations for Ultrasound Image Guidance of Hyperthermia
Aishwarya Gunasekaran, Kavitha Arunachalam
Indian Institute of Technology Madras, India

17:00
6123: Performance of Thin Film Force Sensors on Tissue Mimicking Phantom with Varying Stiffness for Tactile Finger Force Sensing
Vijayalakshmi Gunasekaran, Kavitha Arunachalam
Indian Institute of Technology Madras, India

17:15
6129: Photoplethysmography-Driven Intelligent Edge Finger Clip for Non-Invasive Hemoglobin Monitoring
Aditi Das, Ishan Basu, Mrinal Kumar Acharya, Debanjan Das
Indian Institute of Technology Kharagpur, India

17:30
Sensors Letters Paper
6324: Ultrasensitive Detection of Creatinine Using Deep Learning Integrated Graphene Oxide Gold Nanocomposites SERS Sensor
Vennila Preethi S, Gowri Annasamy
Indian Institute of Information Technology, Design & Manufacturing, Kancheepuram, India

Technical Program: Tuesday, February 24

8:30 - 18:00
Registration
Room: Pre Function Area

9:00 – 10:30
Workshop: Science Without Borders: Driving Innovation through Global Partnerships
Room: Tango 1

9:00 – 10:30
B1L-B: Medical & Digital Healthcare III
Room: Tango 2
Session Chair(s): Gautam Bacher, BITS PILANI GOA
Dipankar Bandyopadhy, IIT Guwahati

9:00
Invited Talk
6358: Indigenous Brain Implants
Hardik Jeetendra Pandya
Indian Institute of Science, India

9:30
6157: A Disposable Sensor for the Fast Estimation of Urine Urea Using Single Frequency Impedimetry
Saransh Chourey, Asmita Bose, Avishek Adhikary
Indian Institute of Technology Bhilai, India

9:45
6164: Sensing the Neural, Muscular, and Biomechanical Biomarkers to Evaluate Age-Related Neuromuscular Health
Sankhalp Ns, Celestin Jerald A
SASTRA Deemed to be University, India

10:00
6203: Non-Invasive Quantitative Evaluation of Embryos with Digital Holographic Microscopy
Jyothika Velakketh Ganesan, Partha Pratim Pal, Sandeep Karunakaran, Renu John
Indian Institute of Technology Hyderabad, India

10:15
Sensors Letters Paper
6323: Functionalized SiO_2 Wafer Platform for on Chip Extracellular Vesicles Capture-Lysis for Electrochemical Sensing
Nusrat Praween{2}, Krishna Thej Pammi Guru{3}, Palash Kumar Basu{1}
{1}Indian Institute of Space Science and Technology, India; {2}Indian Institute of Space Science and Technology, Thiruvanthapuram, India; {3}SoC, University of South Africa, India

9:00 – 10:30
B1L-C: From Physical to Chemical Sensing I
Room: Tango 3
Session Chair(s): Kavya Dashora, IITD
Pritam Anand, DA-IITC

9:00
Sensors Letters Paper
6335: A Portable Microfluidic Paper-Based Analytical Device for Sensing of Cortisol in Artificial Saliva
Utkarsha Wankhade{3}, Danish Khan{3}, Khushi Mahule{3}, Manshwi Patle{3}, Madhura Ambadkar{3}, Isha Wele{3}, Jayu Kalambe{1}, Rajesh Pande{2}
{1}RamdeoBaba University Nagpur, India; {2}RBU, India; {3}RCOEM, India

9:15
Sensors Letters Paper
6336: A Data-Driven Approach to Leak Identification and Severity Analysis in Pipelines Using Acoustic Sensing and Deep Learning
Mayukh Biswas{4}, Aditya Narayan{2}, Debaudh Ghosh{3}, Samriddha Ganguly{1}, Raj Rakshit{4}, Chirabrata Bhaumik{4}
{1}Indian Institute of Science Education and Research Bhopal, India; {2}Indian Institute of Technology, Guwahati, India; {3}Jadavpur University, India; {4}TATA Consultancy Services Limited, India

9:30
Sensors Letters Paper
6338: A 4H-SiC CTAT Temperature Sensor Operating Between 14K and 481K
Luigi Di Benedetto{2}, Nicola Rinaldi{2}, Mathias Rommel{1}, Alexander May{1}, Rosalba Liguori{2}, Alfredo Rubino{2}, Gian Domenico Licciardo{2}
{1}Fraunhofer Institute for Integrated Systems and Device Technology, Germany; {2}University of Salerno, Italy

9:45

Sensors Letters Paper

6340: rGO/Graded ZnO Based FET for Tunable Heavy Metal Ion Detection in Water

Arijit Pattra{1}, Sampurna Mukherjee{1}, Bidesh Mahata{1}, Tanmoy Jana{2}, Sayan Dey{1}
{1}Indian Institute of Technology Bhubaneswar, India; {2}Techno International New Town, Kolkata, India

10:00

Sensors Letters Paper

6345: Sensor-Driven Entropy for Energy-Efficient Security in Optical Camera Communication Systems

Puneet Pandey, Sandeep Joshi
Birla Institute of Technology and Science, Pilani, India

9:00 – 10:30
B1L-D: Student Research Forum I
Room: Debate
Session Chair(s): Chirasree RoyChaudhuri, Bengal Engineering and Science University
Anwesha Khashnobish, TCS

9:00

6044: Customer Segmentation

Kannan N{3}, Renuka N{2}, Vinitha C{1}, Saran Venkatesh B{1}, Ucchakumar S{1}
{1}Kongu Engineering College, India; {2}kongu engineering college-638052, India; {3}kongu engineering college,perundurai-638052, India

9:15

6066: Face-Landscape Illusion Generation Using Style Gan

Sattvik Annadatha, Sivagamasundari G.
PES University, India

9:30

6099: Magnetic Field Sensing in AlN-Based One-Port Delay Line SAW Resonator

Tanisha Burman, Davinder Kaur
Indian Institute of Technology Roorkee, India

9:00 – 12:00
Sensors Standards Event
Room: Nucleus

9:00 – 12:00
Startup Summit
Room: Pre Function Area

10:30 – 10:45
Coffee Break
Room: Pre Function Area

10:45 – 12:00
YP Workshop: How to Prepare a Paper for IEEE Journals and/or Conferences
Room: Tango 1

10:45 – 12:00
B2L-B: Manufacturing & Automation II
Room: Tango 2
Session Chair(s): Shubhra Gangopadhyay, The University of Missouri
Thilo Sauter, Donau-Universität, Vienna, Austria

10:45

6057: A Two-Stage Multi-Task Learning-Based Algorithm for Photo Lithography Quality Root Cause Analysis

Sameera Bharadwaja Hayavadana{2}, Ankit Gupta{2}, Siddharth Jandial{2}, Akash Gaurav{2}, Shashank Shrikant Agashe{2}, Gil-Woo Song{1}
{1}Samsung Electronics, Korea; {2}Samsung Semiconductor India Research, India

11:00

6113: Inductively Coupled Recovery Mechanism for Instrumented Mooring Lines of Buoy System

Byju C{1}, Ananya Amban{2}, Divya D S{2}
{1}Centre for Development of Advanced Computing, India; {2}ER&DCI Institute of Technology, Centre for Development of Advanced Computing C-DAC, India

11:15

Sensors Letters Paper

6407: ANN based hybrid framework to evaluate the ride comfort standards in autonomous and conventional vehicles

Kp Sibivivek, Edwin Varghese, Ashok Kumar Pandey
Indian Institute of Technology Hyderabad, India

11:30

6056: Real-Time Quantification of TPM in Frying Oil Using IDE-Based Sensor

Rajat Srivastava, Sangeeta Kale
Defence Institute of Advanced Technology, India

11:45

Sensors Letters Paper

6362: A Smart Dual Thermistor-Based Nasal Mask for Respiratory Health Monitoring

Thomaskutty Mathew, Chapala Anjaneyulu, Joel Mohapatra, Brithik Biju R, Anoop Chandrika Sreekantan
Indian Institute of Space Science and Technology, India

10:45 – 12:00
B2L-C: AI for Sensing II
Room: Tango 3
Session Chair(s): Shailesh Deshpande, TCS
Soma Bandyopadhyay, TCS

10:45

6322: Identification of Gait Phases from Wireless Surface Electromyography Features with a Hybrid CNN-LSTM Architecture

V Mallikarjuna Reddy M{1}, Pandian P S{1}, Kumaravelu S{2}, Karthick P A{3}
{1}Defence Research and Development Organisation, India; {2}K.A.P.V. Government Medical College Tiruchirappalli, India; {3}National Institute of Technology Tiruchirappalli, India

11:00

6194: Lightweight Hybrid Neural Network for Enhanced ECG Signal Quality Assessment

Evgenia Slivko{1}, Kay Bierzynski{1}, Lorenzo Servadei{2}, Robert Wille{2}
{1}Infineon Technologies AG, Germany; {2}Technical University of Munich, Germany

11:15

6339: Prediction of Ripeness in Mangoes Using Digital Smell

Smarth Behl, Vinod Shrivastava, Shubhajit Roy Chowdhury
Indian Institute of Technology Mandi, India

11:30

Sensors Letters Paper

6326: Masked-Aware Directional Attention Network for DOA Estimation Under Sensor Failure Conditions

Anuj Kumar Mishra{1}, Aditya Srivastava{3}, Ripul Ghosh{2}
{1}Academy of Scientific and Innovative Research (AcSIR), Ghaziabad-201002, India, India; {2}CSIR-Central Scientific Instruments Organisation, India; {3}Vellore Institute of Technology, Bhopal, India

11:45

Sensors Letters Paper

6330: Nanostructured Silicon Aptasensor for Reliable Detection of Leukemia Biomarker

Shafaque F. Khan{2}, Arpita Parakh{2}, Sangeeta Palekar{2}, Dinesh Rotake{1}, Jayu Kalambe{2}
{1}Indian Institute of Technology Bombay, India; {2}RamdeoBaba University Nagpur, India

10:45 -12:00
B2L-D: Student Research Forum II
Room: Debate
Session Chair(s): Chirasree RoyChaudhuri, Bengal Engineering and Science University
Anwesha Khashnobish, TCS

10:45

6101: Eco-Metachip Mini: A Low-Cost, Eco-Friendly Chemical Identifier Utilizing a Novel Coir-Rubber Dielectric Sensor

Abhiram B, Aaromal A, Devanarayanan C.R, Ivana Anto Kallookaran
Cochin University of Science And Technology, India

11:00

6114: Harnessing Synergy in Reactively Co-Sputtered Mo-W-N Pseudocapacitive Nanocomposite for High-Performance Flexible Na-Ion Supercapacitor

Vijay Lohan, Davinder Kaur
Indian Institute of Technology Roorkee, India

11:15
6131: Investigating Hybrid Deep Learning Architectures for Speech Envelope Reconstruction from EEG
Uday Sankar Gottipalli, Aditi Jha, Krishna Miyapuram
Indian Institute of Technology Gandhinagar, India

11:30
6257: Design and Analysis of a Quadrature Branch-Line Coupler for Wideband RF Applications
Michael Waweru{2}, Emmanuel Musundi{1}
{1}Kenyatta University, South Africa; {2}University of Pretoria, South Africa

11:45
6264: Next-Generation Printed PEDOT:PSS Electrodes with Synergistic Mechanical and Electrical Deformability
Hemant Hemant, Vipin Amoli
Rajiv Gandhi Institute of Petroleum Technology, India

12:30 – 13:30
Plenary Speaker: Yogesh Gianchandani, University of Michigan, Ann Arbor
Room: Tango 1, 2, & 3
Session Chair: Usha Varshney, National Science Foundation Former Program Director

13:30 – 14:15
Lunch
Room: Exhibition Hanger

14:15 – 15:15
Keynote Speaker: Nilesh M. Desai, Director of Space Applications Centre (SAC), ISRO
Room: Tango 1, 2, & 3
Session Chair: Hamida Hallil-Abbas, University of Bordeaux

15:15 – 16:45
IEEE DataPort Competition
Room: Nucleus

15:15 – 16:45
Posters: B3P-F: Medical & Digital Healthcare VII
Room: Pre Function Area, Screen 1
Session Chair(s): Dipankar Bandyopadhy, IIT Guwahati

15:15
6021: HeartSense: Machine-Augmented Intelligence for Predicting Cardiovascular Disease from Structured Clinical Data with Patient Diagnostic Profiles
Aarush Aggarwal, Piyush Taneja, Vinay Arora, Sanjeev Rao
Thapar Institute of Engineering & Technology, India

15:25
6039: VITAL Net: A Hybrid Framework for SpO2 and HR Estimation Using Smartphone rPPG Video
Rahul Ranjan, Vishal Singh Roha, Mehmet Rasit Yuce
Monash University, Australia

15:35
6045: Design of Compact Near-Field Probe with Tissue-Invariant Response for Deep Tissue Microwave Radiometry
Neenu Vymeliyath Sajeev, Kavitha Arunachalam
Indian Institute of Technology Madras, India

15:45
6096: A Smart Piezoelectric Mat for Gesture-Based Communication in Hearing and Speech Disabilities
Remya Nair, Zainab Abualhassan, Dania Husni, Fatma Abualhassan, Nader Shehata
Kuwait College of Science and Technology, Kuwait

15:55
6097: Predicting Workplace Depressive Symptoms Based on Work Limitation Questionnaire and Wearable-Derived Indicators
Hiroaki Suzuki{2}, Takemi Matsui{2}, Nobutoshi Kariya{1}, Yusuke Obara{1}, Shohei Sato{2}
{1}Maynds Tower Mental Clinic, Japan; {2}Tokyo Metropolitan University, Japan

16:05
6124: Preliminary Evaluation of Polymer-Based Mechanical Intracranial Pressure Sensor with Ultrasound Readout
Colleen Chemerka, Lukas Selzer, Florian Solzbacher
University of Utah, United States

16:15
6144: A NEGF Simulation-Based Study of Ultra-Scaled Split-Cavity TMD Biosensor for SARS-CoV-2 Detection
Chetna Garg{2}, Harsupreet Kaur{1}
{1} University of Delhi, India; {2}University of Delhi South Campus, India

16:25
6146: Wigner Ville Distribution as Feature Extraction with Bio-Inspired Feature Selection for Improved Diabetes Classification
Dinesh Chellappan{2}, Harikumar Rajaguru{1}
{1}Bannari Amman Institute of Technology, India; {2}KPR Institute of Engineering and Technology, India

16:35
6156: Piezo–ECG Integration for Individualized Continuous Cuffless Blood Pressure Monitoring: A Correlation-Based Proof-of-Concept Study
Saransh Khandelwal, Renu John
Indian Institute of Technology Hyderabad, India

15:15 – 16:45
Posters: B3P-G: Medical & Digital Healthcare VIII
Room: Pre Function Area, Screen 2
Session Chair(s): Gautam Bacher, BITS PILANI GOA

15:15
6192: DTM MXene-Based Double Network Hydrogel Mimicking Human Skin Functionality
Nongthombam Joychandra Singh{2}, Tarun Singh{2}, Yashasvi Jagadish{2}, Nilesh Goel{1}, Parikshit Sahatiya{2}
{1}Birla Institute of Technology and Science, Pilani - Dubai, India; {2}Birla Institute of Technology and Science, Pilani - Hyderabad, India

15:25
6198: Localisation of Seizure Onset Zones from Cyclostationary Features of Intracranial EEG Signals
Archana S{4}, Divya Bharathi Krishnamani{3}, V Mallikarjuna Reddy M{1}, Jac Fredo A R{2}, Karthick P A{4}, Ramakrishnan S{3}
{1}Defence Research and Development Organisation, India; {2}Indian Institute of Technology (Banaras Hindu University) Varanasi, India; {3}Indian Institute of Technology Madras, India; {4}National Institute of Technology Tiruchirappalli, India

15:35
6207: Enhanced Wireless Power Transfer Using Magnetically Graded Self-Biased Magnetoelectric Heterostructure
Palak Agarwal, Aditi Shekhar, Dibyajyoti Mukherjee, Dhiman Mallick
Indian Institute of Technology Delhi, India

15:45
6209: Characterization of Tissue Morphology Based on Attenuation and Speckle Features Using Gradient Boost Classifiers
Devanshi Soni, Nijas Mohamed, Renu John
Indian Institute of Technology Hyderabad, India

15:55
6227: Automated Assessment of Cognitive Load Across Different Task Using Multimodal Signals and Novel Cross-Attention Network
Swarubini P J{1}, Kaveti Pavan{1}, Ryunosuke Kirita{2}, Tomohiko Igasaki{2}, Nagarajan Ganapathy{1}
{1}Indian Institute of Technology Hyderabad, India; {2}Kumamoto University, Japan

16:05
6229: Performance Analysis of Graphene FET on Flexible and Si Substrate
Shrestha Das, Kamalesh Tripathy, Sanjeev Patel, Mitradip Bhattacharjee
Indian Institute of Science Education and Research Bhopal, India

16:15
6230: TCAD Simulation Study of a Graphene Field-Effect Transistor Biosensor for Malaria Antigen Detection
Archit Agrawal, Shradha Bhatnagar, Satyendra Kumar Maurya, Vishal Saxena, Dheerendra Singh
Birla Institute of Technology and Science, Pilani, India

16:25
6236: A Robust Ensemble Framework for Autism Spectrum Disorder Classification Integrating Multiple Connectivity Features for fMRI Data
Vijay Srinivas P, Harish Ss, Gunda Harshavardhan, Jerome Richard D, Amrutha Veluppal
Amrita Vishwa Vidyapeetham, Coimbatore, India

16:35
6237: PPG Data Compression Using Fast Fourier Transform and Discrete Hartley Transform
Vivek Singh, Dhwani Kaushal, Priyanka Jain
Delhi Technological University, India

15:15 – 16:45
Posters: B3P-H: Medical & Digital Healthcare IX
Room: Pre Function Area, Screen 3
Session Chair(s): Hamida Hallil-Abbas, University of Bordeaux

15:15
6247: Comparative Analysis of Hydrogen Peroxide Detection Using Paper-Based Micropads and Glass Vials
Prithvi Chawla, Meghana Hasamnis
Shri Ramdeobaba College of Engineering and Management, India

15:25
6261: Towards a Minimally Invasive Platform for Point-of-Care Early Detection of NAFLD Through Rapid Profiling of MDA and TNF-α with Synthetic MIP Receptors
Salik Abdullah, Subhradyuti Basu, Deepjyoti Kalita, Khalid Baig Mirza
National Institute of Technology, Rourkela, India

15:35
6331: Label-Free Detection of Phytophthora Palmivora Through DNA Hybridization
Remya Eapen, Jose Joseph
Digital University kerala, India

15:45
Sensors Letters Paper
6415: Fully inkjet-printed glucose sensor on flexible polyimide substrate
Aditi Ghosh, Sushree Sangita Priyadarsini, Subho Dasgupta
Indian Institute of Science, India

15:55
6159: Analysis of Neck and Shoulder Muscle Fatigue Conditions Using Nonlinear Features of Surface Electromyography
Gobinath Kaliyaperumal{2}, Karthick P A{2}, Ramakrishnan S{1}
{1}Indian Institute of Technology Madras, India; {2}National Institute of Technology Tiruchirappalli, India

16:05
6166: A Highly Sensitive Optical Biosensor with Tunable Point Defect Cavity for Point-of-Care Testing
Bahareh Firouzi{1}, Yashar Gholami{2}, Behnam Saghirzadeh Darki{1}, Kian Jafari{2}, Taha Azad{2}
{1}Islamic Azad University, Iran; {2}University of Sherbrooke, Canada

16:15
Sensors Letters Paper
6301: Data-Driven Extended-Gate Field-Effect Transistor-Based Biosensors for Bisphenol S Detection Using Machine Learning Framework
Rishikesh Datar, Neha Menon, Ashirbad Panda, Gautam Bacher
BITS Pilani KK Birla Goa Campus, India

16:25
Sensors Letters Paper
6411: Detection of Neck and Shoulder Muscle Fatiguing Contractions Using Superlet Transform of Wireless Electromyography Measurements and Lightweight CNN
Gobinath Kaliyaperumal, Karthick P A
National Institute of Technology Tiruchirappalli, India

16:35
Sensors Letters Paper
6410: A GMR-Based Smart Respiration Belt for Non-Invasive Real-Time Monitoring
Aryan Sharma, Sayam Chakraborty, Thomaskutty Mathew, Siva Sankar Rusum, Satuluri Tejaswini, Abhay Renjith T J, Anoop C S
Indian Institute of Space Science and Technology, India

15:15 – 16:45
Posters: B3P-J: Robotics & Digital Twin II
Room: Pre Function Area, Screen 4
Session Chair(s): Madhukant Sharma, DA-IICT

15:15
6090: Cyber Physical System for Stagnant Water Detection and Targeted Spraying Using UAVs
Shaik Jani Basha{3}, Syam Narayanan S{3}, Mohan Kumar{3}, Srikanth Vs{1}, Sathasheel Hasure{1}, Lakshminarayan R{1}, Dheeraj Sr{1}, Rajalakshmi Pachamuthu{2}
{1}Indian Air Force Academy, India; {2}Indian Institute of Technology Hyderabad, India; {3}NMCIPS TiHAN Foundation, Indian Institute of Technology Hyderabad, India

15:25
6098: Development of a Mobile Service Robot with UWB Localization for Hazard and Air Quality Detection in Multi-Room Facilities
Ege Yurtseven
TED Ankara College Foundation High School, Turkey

15:35
6110: A Multi-Sensor Fusion Framework for Unmanned Aerial Vehicle (UAV) Navigation and Inspection in GPS-Denied and Degraded Environments
Vuppu Venkata Sai Viswa Kiran, Sainath Reddy Akkala, Vishal Sri Sai H, Himabindu Allaka, R Prasanth Kumar
Indian Institute of Technology Hyderabad, India

15:45
6120: UAV Based Precise Multi Payload Dropping System Using Vision Guidance and RTK Positioning
Tarun Kumar Bodnayakuni{1}, Sanju Kumar Nt{2}, Syam Narayanan S{2}, Raju Santhani{1}, Pavan Sai Kumar Thummala{1}, Rajalakshmi Pachamuthu{1}
{1}Indian Institute of Technology Hyderabad, India; {2}NMCIPS TiHAN Foundation, Indian Institute of Technology Hyderabad, India

15:55
6122: Cloud Based Task Management System for Building Inspection Using Drones and Deep Learning Techniques
Sanju Kumar Nt{2}, Philip Godala{1}, Rajalakshmi Pachamuthu{1}
{1}Indian Institute of Technology Hyderabad, India; {2}NMCIPS TiHAN Foundation, Indian Institute of Technology Hyderabad, India

16:05
6145: Evaluating and Mitigating Adversarial Vulnerabilities in Vision Foundation Models
Digvijaysing Rajput
Indian Institute of Technology Hyderabad, India

15:15 – 16:45
Posters: B3p-K: Robotics & Digital Twin III
Room: Pre Function Area, Poster Screen 5
Session Chair(s): Sujay Kadam, DA-IICT

15:15
6226: Modeling and Control of a Two-Agent Aerial System for Dynamic Throw-and-Catch Maneuvers
Aashish Sahu, R Prasanth Kumar
Indian Institute of Technology Hyderabad, India

15:25
6245: Real-Time Semantic Mapping and Object-Oriented Autonomous Navigation with Low-Cost LiDAR and RGB Sensor
Sarimella Rami Reddy, Vuppu Venkata Sai Viswa Kiran, S Chinnikrishna Yadav, R Prasanth Kumar
Indian Institute of Technology Hyderabad, India

15:35
Sensors Letters Paper
6394: CatBoost-Driven Anomaly Detection in Industrial Robotic Arms Using CASPER Dataset
Priyanshu Doshi, Neal Daftary, Hetavi Jani, Anuja Nair
Nirma University, India

15:45
Sensors Letters Paper
6413: Experimental Demonstration of a DC excited Coreless Planar PCB Coil Actuator targeted for Lateral Micro-actuation in MEMS
Praful Kabadi{4}, Abhijit Kamble{2}, Vinod Belwanshi{1}, Sanjay Talole{3}, Bhubon Mech{2}
{1}CSIR - National Metallurgical Laboratory, India, India; {2}Defence Institute of Advanced Technology Pune, India; {3}Defence Research and Development Organisation, Pune, India; {4}Indian Institute of Technology Delhi, India

15:55
6240: Computational Analysis of Working and Counter Electrode Gap Influence on Current Density in Laser-Induced Graphene Electrochemical Sensors
David Stephen J B, Kalpana Settu
Indian Institute of Information Technology, Design & Manufacturing, Kancheepuram, India

16:05
6176: Paper Based Nonenzymatic rGO-CuO Nanocomposite Sensor for Sweat Glucose Detection
Rimjim Shibam, Prem Chetry, Rewrewa Narzary, Partha Pratim Sahu
Tezpur University, India

15:15 – 16:45
Posters: B3P-L: Special & Focus Sessions
Room: Pre Function Area, Screen 6
Session Chair(s): Soma Bandyopadhyay, TCS
Shailesh Deshpande, TCS

15:15
6130: Canonical Correlation Approach for Predicting Music Aesthetic Ratings from EEG Sensors
Pankaj Pandey{3}, Poorva Bedmutha{4}, Nashra Ahmad{2}, Aditi Jha{3}, Krishna Miyapuram{3}, Derek Lomas{1}
{1}Delft University of Technology, Netherlands; {2}Durham University, United Kingdom; {3}Indian Institute of Technology Gandhinagar, India; {4}University of California, San Diego, United States

15:25
6161: Enabling Plasmonic Refractive Index Nanosensing Assisted with Ai
Anirban Chaudhuri{2}, Subhasri Chatterjee{2}, Sauvik Roy{1}, Anish Datta{2}, Nirmalya Ghosh{1}, Soma Bandyopadhyay{2}, Tapas Chakravarty{2}, Arpan Pal{2}
{1}Indian Institute of Science, Education and Research - Kolkata, India; {2}TATA Consultancy Services Limited, India

15:35
6281: AI-IoT Enabled PEDOT: PSS VOC Sensor for Early Thermal Runaway Detection in Lithium-Ion Batteries
Palwinder Kaur{1}, Amol P. Bhondekar{1}, Vilas G. Pol{1}, Sudeshna Bagchi{2}
{1}CSIR-Central Scientific Instrumenst Organisation, India; {2}CSIR-Central Scientific Instruments Organisation, India

15:45
6285: Visual Attention-Based Modeling of Consumer Like/Dislike Reactions to Creative Contents
Mithun B S, Tince Varghese, Somnath Karmakar
TATA Consultancy Services Limited, India

15:15 – 16:45
B3P-M: Emerging Quantum Technologies II
Room: Screen 7
Session Chair(s): Ashok Kumar Pandey, IITH

15:15
6175: Valley Induced Non-Equivalent Berry Curvature in Half Metallic Janus Heterostructure
Deepshekhar Roy, Pritam Deb
Tezpur University, India

15:25
Sensors Letters Paper
6392: A Compact Active Quenching and Recharge Circuit for 3D-Integrated SPAD Pixels
Zhenjie Wang, Bhaskar Choubey
University of Siegen, Germany

15:15 – 16:45
B3P-N: Live Demo
Room: Pre-Function Area
Session Chair(s): Han Shao, Tyndall
Ponnalagu R N, Birla Institute of Technology and Science Pilani Hyderabad Campus

6263: Artificial Intelligence Enabled Electronic Nose for Real-Time Odour Profiling of Pizza Seasonings
Malay Yadav{2}, Arun Sharma{1}
{1}National Institute of Food Technology Entrepreneurship and Management (NIFTEM), India; {2}Tata Consultancy Services, United States

6265: Live Demonstration: Force Platform for Balance Measurement
Ronak Tiwari, Deepan Muthirayan, Andy Ruina, Arshdeep Sidhu
Plaksha University, India

6266: Live Demonstration: Energy-Autonomous Environmental Sensor Probes
Suman Kundu, Uttunga Shinde, Peter Woias
University of Freiburg, Germany, Germany

6269: Live Demonstration:- neuroglow:Development of a Low-Cost Adaptive Cognitive Therapy System for Hand-Eye-Brain Coordination
Bishnu Thakur, Rohit Sah, Saurav Kafle
KPR Institute of Engineering and Technology, Anna University, India

6369: Live Demonstration: Advanced Sensor Systems for Smart Agriculture
Han Shao{1}, Alan O'Riordan{2}, Richard Murray{1}
{1}Tyndall National Institute, Ireland; {2}Tyndall National Institute - University College Cork, Ireland

6272: A Handheld System Utilizing Wet Electrode Atmospheric Pressure Microplasma for Multielement Analysis of Metal Ions in Aqueous Samples
Manjeet Kumar, Bhaskar Mitra
Indian Institute of Technology Delhi, India

6334: ECG and Non-Invasive Glucose Monitoring Systems
Joychandra Singh{2}, Varun Darapureddy{2}, Yashasvi Jagadish{2}, Chandra Sekhar Reddy Kolli{2}, Nilesh Goel{1}, Parikshit Sahatiya{2}
{1}Birla Institute of Technology and Science, Pilani - Dubai, U.A.E.; {2}Birla Institute of Technology and Science, Pilani - Hyderabad, India

6337: Live Demonstration: Autonomous, Weather-Agnostic Sensing and Communication Drone for Post-Disaster Logistics
Srikar Burugula, Aditya Bondalapati, Emani Venkata Gaurav, D. Mohan Sai Eswar Uma
VNR Vignana Jyothi Institute olf Engineering and Technology, India

6351: Live Demonstration: EchoVerse-An IoT Based Hybrid Language Translator
Nirbhay Hemant Shinganjude, Shivam Rahul Mandlekar, Rucha Dilip Yerunkar
Ramdeobaba University, India

6342: Towards a Digital Twin of HEMM Fleet Operations: A Sensor-System Prototype and Simulation Framework for Monitoring in Open-Pit Coal Mines
Musab Bin Khaleeq, Jalak Vyas, Saarthak Jindal, David Tandel, Tapas Kumar Maiti, Sujay Kadam
Dhirubhai Ambani University, India

6343: A Robust IoT Architecture for Real-Time Battery and Environmental Monitoring in Coal-Mine Infrastructure
David Tandel{1}, Musab Bin Khaleeq{1}, Rahul Mishra{2}, Tapas Kumar Maiti{1}, Sujay Kadam{1}
{1}Dhirubhai Ambani University, India; {2}Indian Institute of Technology Patna, India

6344: Live Demonstration: Smart Flexible Self Powered Insole Sensor System for Real Time Foot Pressure Mapping and Human Activity Monitoring
Vishal Singh, Irshan Akhtar, Dhiman Mallick
Indian Institute of Technology Delhi, India

6370: ElderEase: AI-Driven Intelligent Support Systems for Enhanced Elderly Assisted Living
Jeswin Joseph{2}, Gopika Gopakumar{2}, Shreya R S{2}, Yajjala Yamuna Kumari{2}, Vishnu V Das{1}, Anish Sathyan{1}
{1}Centre for Development of Advanced Computing (C-DAC), India; {2}ER&DCI Institute of Technology, India

6373: Live Demonstration: Surveillance Terrain Rover with Integrated Dynamic Evolution
Parameshwran Iyer, Sohini Kayal, Dibyasreekant Bisoyi, Swayam Shree, Aarshia Rawat, Aryan Anupam, Ponnalagu R. N., Joyjit Mukherjee
Birla Institute of Technology and Science, Pilani - Hyderabad, India

6375: Physics-Informed Neural Networks for Human Activity Recognition with Heterogeneous Sensor Data
Aayush Katariya, Vyom Vyas, Arindam Kushagra
Birla Institute of Technology and Science, Pilani - Hyderabad, India

15:15 – 16:45
MYOSA Competition
Room: Pre Function Area

16:45 – 18:00
Sensorpreneur Pitch
Room: Tango 1

16:45 – 18:00
Session for Pre-University Student Workshop
Room: Tango 3

16:45 – 18:00
B4L-D: Student Research Forum III
Room: Debate
Session Chair(s): Chirasree RoyChaudhuri, Bengal Engineering and Science University
Sayan Kanungo, BITS Hyderabad

16:45
6267: ML-Enhanced IoT-Integrated AlGaN/GaN HEMT Based Multifunctional Sensors for Gas, and Radiation Detection
Vikas Pandey
Indian Institute of Technology Jodhpur, India

17:00
6268: Intelligent Cardiovascular Disease Diagnosis Using Deep Learning Through Different Modalities: Numeric Data and Images
Navya Prasad, Sneha Saxena, Anupama Bhan
Amity University Uttar Pradesh, India

17:15
6270: Development of an Interdigitated Electrodes-Based Extended-Gate Field-Effect Transistor Biosensor for Sensitive Detection of Bisphenol S
Rishikesh Datar, Gautam Bacher
BITS Pilani KK Birla Goa Campus, India

17:30
6271: A Handheld System Utilizing Wet Electrode Atmospheric Pressure Microplasma for Multielement Analysis of Metal Ions in Aqueous Samples
Manjeet Kumar, Bhaskar Mitra
Indian Institute of Technology Delhi, India

17:45
6002: Performance Analysis of RF Energy Harvesting for Wireless Sensor Networks Using NetSim Simulation
Durganandhini V, Fatheen Ibrahim S, Gayathri V, Kamalnath K, Raja L
Sri Eshwar College of Engineering, India

16:45 – 18:00
YP Workshop: Grant Writing for Success
Room: Nucleus

18:30 – 19:30
Cultural Event & Awards Ceremony
Room: Tango 1, 2, &3

19:30 – 21:00
Gala Dinner
Room: Lawn

Technical Program: Wednesday, February 25

8:30 – 18:00
Registration
Room: Pre Function Area

9:00 – 10:00
Keynote Speaker: Abhay Kharandikar, Secretary, Department of Science & Technology (DST)
Room: Tango 1, 2, & 3
Session Chair: Ramgopal Rao, BITS Pilani Campuses, India

10:00 - 10:30
Coffee Break
Room: Pre Function Area

10:30 – 12:00
C1L-A: Environment & Climate Change Monitoring I
Room: Tango 1
Session Chair(s): Tapas Chakravarty, Institute of Engineering and Management, Kolkata
Session Chair(s): Hussain Kanchwala, IITD

10:30
6029: Design and Implementation of a Remotely Operated Smart Cbrn Detection Bot for Hazardous Environment Monitoring
Md Farukh Abudin, Manyap S Konyak, Jitesh Choudhary
Centre for Development of Advanced Computing, India

10:45
6052: Cost-Effective Butter Paper Based Sensor for Accurate Soil Suction Measurement
Shinjan Chatterjee, Sunil Mohan, Tadikonda Venkata Bharat
Indian Institute of Technology Guwahati, India

11:00
6246: Paper Dipstick-Based Pathogen Nucleic Acid Extraction and Electrochemical Sensing for End-to-End Wastewater Monitoring
Shruti Ahuja, Kiran Kondabagil, Siddharth Tallur
Indian Institute of Technology Bombay, India

11:15
Invited Journal Author
6320: AC Analysis and Modeling of Graphene-Enriched WO_3–Pt Films for Hydrogen Sensing
Tiziana Polichetti{1}, Brigida Alfano{1}, Ettore Massera{1}, Maria Lucia Miglietta{1}, Anna De Girolamo Del Mauro{1}, Luigi Di Benedetto{2}, Rosalba Liguori{2}, Nicola Rinaldi{2}, Alfredo Rubino{2}
{1}ENEA, Italy; {2}University of Salerno, Italy

10:30 – 12:00
C1L-B: Emerging Quantum Technologies I
Room: Tango 2
Session Chair(s): Bhaskar Kenseri, IIT Delhi
Poornendu Chaturvedi, DRDO

10:30
Invited Talk
6403: Quantum Technology Initiatives of DRDO
Poornendu Chaturvedi
SSPL, India

11:00
6074: Tunable Amplitude–Frequency Response of Phononic Frequency Combs for Quantum Sensing
Madhurendra Mishra{2}, Adarsh Ganesan{1}
{1}Birla Institute of Technology and Science, Pilani - Dubai, U.A.E.; {2}Sri Guru Tegh Bahadur Khalsa College, University of Delhi, India

11:15
6111: Investigations on Metasurfaces Based on PDMS Substrates with Varying Mixing Ratios
Mohamed Abdulla, Vanniya Balan, Srijith Kanakambaran
Indian Institute of Information Technology, Design & Manufacturing, Kancheepuram, India

11:30
6171: Rydberg Atomic RF Sensor-Based Quantum Radar
Sourav Banerjee, Neel Kanth Kundu
Indian Institute of Technology Delhi, India

11:45
6325: A Dual Frequency Ultrasonic Ranging Method with Adaptive Frequency Tuning for Micrometer-Accuracy Distance Measurement
Haneesh Sankar T P, Nithya P, Rajesh K R
Centre for Development of Advanced Computing, India

10:30 – 12:00
C1L-C: From Physical to Chemical Sensing II
Room: Tango 3
Session Chair(s): Anwesha Khasnobish, TCS
Chirasree RoyChaudhuri, Bengal Engineering and Science University

10:30
Sensors Letters Paper
6346: Pristine SiNW Thin-Film Gas Sensors: Poole-Frenkel Transport-Enabled H2S Detection
Vishnuram Abhinav{2}, Shikha Supriya Verma{1}, Atanu Das{3}, Tejas R. Naik{4}
{1}Gauhati Medical College and Hospital, India; {2}Indian Institute of Technology Bombay, India; {3}Manipal Institute of Technology, Manipal Academy of Higher Education, India; {4}University of Glasgow, United Kingdom

10:45
Sensors Letters Paper
6348: Automated Multimodal Sensing for Cognitive Load Assessment Using Cross-Modality Driven Attention Fusion
Swarubini P J{1}, Ryunosuke Kirita{2}, Tomohiko Igasaki{2}, Nagarajan Ganapathy{1}
{1}Indian Institute of Technology Hyderabad, India; {2}Kumamoto University, Japan

11:00
Sensors Letters Paper
6349: Development of Electrochemical Sensors for Blood Glucose Detection with Wide Range Using MWCNT-Chitosan – A Microneedle Approach
Mohana Priya Kandan{2}, David Stephen J B{1}, Sreeja Balakrishna Pillai S{1}
{1}Anna University, Chennai, India; {2}College of Engineering Guindy, Anna University, India

11:15
Sensors Letters Paper
6363: FPGA Implementation of Binary-Weighted Transformer for Prognostics and Health Management of Permanent Magnet Synchronous Motors Using Current Sensors
Soongyu Kang{2}, Yongchul Jung{3}, Sewoon Oh{1}, Yunho Jung{2}
{1}Korea Aerospace Industries, Korea; {2}Korea Aerospace University, Korea; {3}Korea Electronics Technology Institute, Korea

11:30
6174: An Enhanced Direct Microcontroller-Based LVDT Instrumentation System
Rushikesh Gadekar, Anoop Chandrika Sreekantan
Indian Institute of Space Science and Technology, India

11:45
Sensors Letters Paper
6379: Machine Learning Assisted Pb2+ Ions Detection Using AlGaN/GaN HEMT Sensors
Nidhi Mahesh Hegde, Pramod Martha, Adarsh Nigam
Manipal Institute of Technology, Manipal Academy of Higher Education Manipal, India

10:30 – 12:00
C1L-D: Agriculture & Food Technology II
Room: Debate
Session Chair(s): Kavya Dashora, IITD
Veda Sandeep Nagaraja, Tyndall

10:30
6075: Energy-Efficient IoT-Based Waterproof Irrigation Node Using Wireless Tree-Topology
Lokesh Aravapalli, Sujit G, Jagan P, Madhav Rao
International Institute of Information Technology Bangalore, India

10:45
6167: Sensitive Detection of Water in Milk Using Microwaves
Nazmia Kurniawati, Paris Vélez, Pau Casacuberta, Xavier Canalias, Gerard Sisó, Ferran Martín
CIMITEC, Universitat Autònoma de Barcelona, Spain

11:00
6211: Rapid In-Situ Crop Age Estimation for Corn Using Phenological Features with Mobile Sensing
Abhishek Kumar, Ruturaj Patil, Sanket Junagade, Sanat Sarangi, Ajay Mittal, Dineshkumar Singh
TATA Consultancy Services Limited, India

11:15
6218: Intelligent Pre-Harvest Grapes Management System
Shumaila Khan{3}, Priteem Behera{3}, Tabassum Shaikh{3}, Ashwini Gajarushi{3}, Ajay Upadhyay{1}, Nishant Deshmukh{1}, Sujoy Saha{1}, Prashant Nikumbhe{1}, Maryam Shojaei Baghini{2}
{1}ICAR-National Research Centre for Grapes, India; {2}Indian Institute of Technology Bombay, India; {3}TIH Foundation for IoT and IoE, India

11:30
6307: Spatio-Spectral Sensor for Differentiating Naturally and Artificially Ripened Bananas - A Comprehensive Analysis with Deep and Handcrafted Features
Neha Naik{2}, Narayan Vetrekar{2}, Rajendra Gad{2}, Raghavendra Ramachandra{4}, Yongsheng Chen{1}, Adavi Rao Desai{3}
{1}Georgia Institute of Technology, United States; {2}Goa University, India; {3}ICAR Research Complex for Goa, India; {4}Norwegian University of Science and Technology, Norway

11:45
6050: Development of Machine Learning Model for Automated Fruit Classification & Ripeness Detection
Anshika Jindal{1}, Monika Nayak{1}, Rekha Manasa{1}, Medha Shukla{2}, Chinmaya K. A.{1}
{1}Indian Institute of Technology (Banaras Hindu University) Varanasi, India; {2}Rewa Engineering College, India

10:30 – 12:00
C1L-E: Medical & Digital Healthcare IV
Room: Nucleus Hall
Session Chair(s): Gautam Bacher, BITS PILANI GOA
Dipankar Bandyopadhy, IIT Guwahati

10:30
6212: Metal Positioning for Guided Dentistry Using Capacitive Sensor
Mohammad Ehshan Khan{1}, Nivit Karki{1}, Javed Khan{1}, Sangeeta Talwar{2}, Amit Malhotra{2}, Vidhi Bhalla{2}, Shahid Malik{1}
{1}Indian Institute of Technology Delhi, India; {2}Maulana Azad Institute of Dental Sciences, India

10:45
6224: Hilbert Transform-Based Glucose Monitoring Using Hybrid Informer-ANN Architecture
Suryansh Malhotra, Manisha Manisha, Jyoti Yadav
Netaji Subhas University of Technology, India

11:00
6233: FGRaC Based Simplified Hill Climb Algorithms for Faster and Robust Autofocusing
Partha Pratim Pal, Mirza Sameerullah Baig, Mridul Verma, Alan Ranjit Jacob, Renu John
Indian Institute of Technology Hyderabad, India

11:15
6235: Deep Learning-Based Estimation of Gait Percentage Using Healthy Gait Data: A Trial Toward Rehabilitation
Rehan Nasar, Rikthika S, Hrishikesh Kulkarni Prahlad, Abhishek Kumar, Manish C Poojari, Krishnan Chemmangat, Deepu Vijayasenan
National Institute of Technology Karnataka Surathkal, India

11:30
Sensors Letters Paper
6311: Smartphone-Based Portable Calcium Sensing Platform Using Image Processing and Machine Learning
Parthesh Patil, Sangeeta Palekar, Jayu Kalambe
RamdeoBaba University Nagpur, India

12:15 – 13:30
C2L-A: Environment & Climate Change Monitoring II
Room: Tango 1
Session Chair(s): Mitradip Bhattacharjee, IISER Bhopal
Tapas Chakravarty, Institute of Engineering and Management, Kolkata

12:15
Sensors Letters Paper
6298: High-Performance Dual UV-A Band Photodetector Based on Sodium-Doped Hydrothermally Synthesized ZnO Nanostructures
Pritika Singh{2}, Tejendra Dixit{1}, Vipul Singh{2}
{1}Indian Institute of Information Technology, Design & Manufacturing, Kancheepuram, India; {2}Indian institute of technology indore, India

12:30
Sensors Letters Paper
6274: Optical Sensing of Chlorophyll Content in Tomato Plants Exposed to Metal Nanoparticles Under Selective Lighting
Felipe Hornung{2}, Walter Oswaldo Cutipa Flores{2}, Katia Christina Zuffellato-Ribas{1}, André Eugenio Lazzaretti{2}, Marcia Muller{2}, José Luís Fabris{2}
{1}Federal University of Paraná, Brazil; {2}Federal University of Technology – Paraná, Brazil

12:45
Sensors Letters Paper
6303: Fabrication of MoSe2/ MoSe2 Nanocomposite-Based Highly Sensitive Gas Sensors for Room Temperature Detection of NO Gas at ppb Level
Priyanka Dutta, Mantasha Malik, Anukriti Bharadwaj, J. S. Tawale, Govind Gupta
CSIR-National Physical Laboratory, India

13:00
Invited Journal Author
6312: Exploring the Sensing Capabilities of Ti3C2Tx MXene Derived C/TiO2: An Approach Toward Stable and Selective Hydrogen Gas Sensing
Amala K, Palash Kumar Basu
Indian Institute of Space Science and Technology, India

12:15 – 13:30
C2L-B: Manufacturing & Automation III
Room: Tango 2
Session Chair(s): Shubhra Gangopadhyay, The University of Missouri
Han Shao, Tyndall

12:15
6197: Predictive Health Monitoring of Solenoid Coils Under Humid Aging Conditions
Thomas Roulleau{1}, Killian Corbel{2}, Hani Al Hajjar{2}, Frédéric Lamarque{2}
{1}ASCO - EMERSON, France; {2}University of Technology of Compiègne, France

12:30
6210: Fabric Sorting System Using Computer Vision and Capacitive Sensing for Smart Textile Recycling
Md Kaunain Bin Mahtab, Abdullah Tariq, Mudra Chavda, Junaid Sahibole, Najeeb Ahmad, Shahid Malik
Indian Institute of Technology Delhi, India

12:45
6221: Highly Sensitive Tunnelling Magnetoresistance-Based Positioning Systems
Mohamad Idris Wani{1}, Brij Kishor Katare{1}, Meraj Ahmad{2}, Huxi Wang{2}, Hadi Heidari{2}, Benish Jan{1}, Shahid Malik{1}
{1}Indian Institute of Technology Delhi, India; {2}University of Glasgow, United Kingdom

13:00
6232: MTS–QRL: A Multi-Tier TOPSIS-Guided Q-Learning Framework for Adaptive Data Rate Optimization in LoRaWAN
Uma Mahesh J{1}, Judhistir Mahapatro{2}
{1}National Institute of Technology Rourkela, India; {2}National Institute of Technology, Rourkela, India

12:15 – 13:30
C2L-C: From Physical to Chemical Sensing III
Room: Tango 3
Session Chair(s): Anwesha Khasnobish, TCS
Chirasree RoyChaudhuri, Bengal Engineering and Science University

12:15
Sensors Letters Paper
6359: Semi-Supervised Multi-Loss Tcn and Transfer Learning for Earthquake Detection in Distributed Fiber-Optic Acoustic Sensing Systems
Deepika Sasi{2}, Sundaresan Sabapathy{1}, Thomas Joseph{2}
{1}Amrita Vishwa Vidyapeetham, Coimbatore, India; {2}National Institute of Technology, Puducherry, India

12:30
Sensors Letters Paper
6360: Resonance-Based Sensing on Large Surfaces Using RF Excitation for Human Machine Interaction
Vikas Kumar{1}, Shivansh Awasthi{1}, Vikash Sharma{1}, Santosh Parajuli{1}, Thomas George Thundat{2}, Ankur Gupta{1}
{1}Indian Institute of Technology Delhi, India; {2}University at Buffalo, United States

12:45
Sensors Letters Paper
6378: Assessment of the Mask Composed of Sputtered Si Thin Film and Positive Photoresist for Wet Bulk Micromachining of Borofloat Glass
Vishal Sahu, Robbi Vivek Vardhan, Priyanka Dewangan, Yogesh Kumar Srivastava, Prem Pal
Indian Institute of Technology Hyderabad, India

13:00
Sensors Letters Paper
6376: Development of Flexible and Biodegradable Paper-Based Wheatstone Bridge Strain Gauge for Low-Cost Sensing Applications
Amit Kumar Goyal{3}, Neha Gupta{1}, Ajay Kumar{2}, Rajesh Mahadeva{4}
{1}GNIOT, India, India; {2}Jaypee Institute of Information Technology, India; {3}Manipal Institute of Technology, Manipal Academy of Higher Education, India; {4}MIT MAHE, India

13:15
Sensors Letters Paper
6374: NiO Micro-Flower Based Conductometric Sensor for Selective Detection of Trace Level TATP
Bidesh Mahata{1}, Arijit Pattra{1}, Sakshi Gupta{2}, Sanjay Gulia{2}, Sayan Dey{1}
{1}Indian Institute of Technology Bhubaneswar, India; {2}IRDE, DRDO, India

12:15 – 13:30
C2L-D: Analytical & Instrumentation II
Room: Debate
Session Chair(s): Rajan Jha, IIT Bhubaneswar
Shahid Malik, IIT Delhi

12:15
Sensors Letters Paper
6287: An On-Line Estimation of Three Non-Idealities of Sine-Cosine Angle Sensors Using a Simple Digital Interface Circuit
Ishaan Sharma, Kishor Bhaskarrao Nandapurkar
Indian Institute of Technology Roorkee, India

12:30
Sensors Letters Paper
6293: A Linearizing Digital Front-End for GMR-Based Magnetic Field Sensor
S. Mohana Priya{2}, Sujay R. Chaudhary{1}, Atharva R. Shinde{1}, Kishor Bhaskarrao Nandapurkar{1}
{1}Indian Institute of Technology Roorkee, India; {2}SLB Pune, India

12:45

Sensors Letters Paper

6304: Concurrent Battery-Free Wireless Strain Sensing Using Backscatter Communication
Jin Mitsugi, Osamu Tokumasu, Masashi Owaki
Keio University, Japan

13:00

Invited Journal Author

6306: Sensitivity Enhancement Enabled by Strongly Coupled DG-IDC Structure with CSRR for Permittivity Detection
Yatish Beria, Gouree Shankar Das, Akash Buragohain, Partha Protim Kalita, Trishna Doloi
Dibrugarh University, India

13:15

Sensors Letters Paper

6314: Incoherent Convolutional Dictionary Learning Based 3D Current Reconstruction from Magnetic Field Imaging
Saurabh Sahu{1}, Prabhat Anand{2}, Anuj Bathla{1}, Kasturi Saha{1}, M Girish Chandra{2}
{1}Indian Institute of Technology Bombay, India; {2}TATA Consultancy Services Limited, India

12:15 – 13:30
C2L-E: Medical & Digital Healthcare V
Room: Nucleus Hall
Session Chair(s): Dipankar Bandyopadhy, IIT Guwahati
Gautam Bacher, BITS PILANI GOA

12:15

6239: Investigation of Graphene Oxide Coating Methods in Laser-Induced Graphene-Based Humidity Sensor
Aruloli Kathirvel, Kalpana Settu
Indian Institute of Information Technology, Design & Manufacturing, Kancheepuram, India

12:30

6241: Silicone-Dampened FSR for Novel Residual Stump Movement-Based Prosthetic Arm Control
Benish Jan, Iqbal Kagdi, Mudra Chavda, Shahid Malik
Indian Institute of Technology Delhi, India

12:45

Invited Journal Author

6305: An Electrochemical Sensor Based on a Facile Synthesis of Chitosan-Blend-Polyaniline Decorated COOH-MWCNT-Hollandite/A-MnO2 Nanocomposites for Creatinine Detection
Kabyashree Hazarika, Jiten Chandra Dutta
Tezpur University, India

13:00

6309: Impact of Gold Coating Methods on Sensing Performance of Enzymatic Glucose Sensors
Hrishita Sharma{2}, Deepjyoti Kalita{1}, Khalid Baig Mirza{1}
{1}National Institute of Technology, Rourkela, India; {2}NIT Rourkela, India

13:15

Sensors Letters Paper

6302: Robust Viral RNA Sensing Using Non-Negative Matrix Factorization of Optical and Electrochemical Signals
Ranamay Saha{1}, Sagnik Sarma Choudhury{1}, Kapil Manoharan{1}, Ekta Gupta{2}, Shantanu Bhattacharya{1}
{1}Indian Institute of Technology Kanpur, India; {2}Institute of Liver and Biliary Sciences, India

13:30 – 14:15
Lunch
Room: Exhibition Hanger

14:15 – 15:15
Plenary Speaker: Anja Boisen, Department of Health Technology, Technical University of Denmark
Room: Tango 1, 2, & 3
Session Chair: Rudra Pratap, Plaksha University

15:45 – 17:00
C3L-A: Environment & Climate Change Monitoring III
Room: Tango 1
Session Chair(s): Hussain Kanchwala, IITD
Tapas Chakravarty, Institute of Engineering and Management, Kolkata

15:45
Sensors Letters Paper
6310: An MoS2/GO Based Thin-Film Transistor for Region-Dependent Tunable Detection of NOx Gases
Sukanya Mahalik, Bidesh Mahata, Sayan Dey
Indian Institute of Technology Bhubaneswar, India

16:00
Invited Journal Author
6316: Portable and Power-Efficient Flue Gas Monitoring System for Real-Time Air Quality Measurement
Prajjwal Shukla{2}, Anjali Goel{2}, Vikas Kumar{1}, Harneet Kaur{3}, Vikas Kumar Malav{2}, Brajesh Rawat{2}
{1}Indian Institute of Technology Delhi, India; {2}Indian Institute of Technology Ropar, India; {3}Mahant Bachittar Singh College of Engineering & Technology, India

16:15
Invited Journal Author
6317: Machine Learning-Based Edge Intelligence for Reliable Gas Monitoring Networks
Sharmistha Nayak{2}, Sudip Misra{1}, Subhasish Basu Majumder{1}
{1}Indian Institute of Technology Kharagpur, India; {2}XIM University, India

16:30
Sensors Letters Paper
6332: An IoT-Based Real-Time Elevator Health Monitoring System Using LSTM Autoencoder
Yogendra Kumar, Mohammad Arif Khan, Avishek Adhikary
Indian Institute of Technology Bhilai, India

16:45
6327: ML-GSQC: Machine Learning for Gas Sensor-Based Quantification and Classification
Ujjwal Singh, Akanksha Dwivedi, Ajay Agarwal
Indian Institute of Technology Jodhpur, India

15:45 – 17:00
C3L-B: Medical & Digital Healthcare VI
Room: Tango 2
Session Chair(s): Gautam Bacher, BITS PILANI GOA
Dipankar Bandyopadhy, IIT Guwahati

15:45
Sensors Letters Paper
6294: Torsion Monitoring with a Helically Wound Macrobend Optical Fiber Sensor
Vinicius de Carvalho{2}, André Eugenio Lazzaretti{1}, Marcia Muller{1}, José Luís Fabris{1}
{1}Federal University of Technology – Paraná, Brazil; {2}UTFPR, Brazil

16:00
Invited Journal Author
6280: FPGA-Based Implementation Using Graph Spectral Features for Multiclass Brain Tumor Classification
Suman Rekha Dip, Hemant Kumar Meena
MALVIYA NATIONAL INSTITUTE OF TECHNOLOGY, India

16:15
Invited Journal Author
6279: Electrochemical Impedance-Based Detection of Pancreatic Cancer Biomarker Glypican1 and Mucin1 Using Electric Field-Lysed Extracellular Vesicles for Analysis: A Proof of Concept
Nusrat Praween{2}, Krishna Thej Pammi Guru{3}, Palash Kumar Basu{1}
{1}Indian Institute of Space Science and Technology, India; {2}Indian Institute of Space Science and Technology, Thiruvanthapuram, India; {3}SoC, University of South Africa, South Africa

16:30

Invited Journal Author

6276: Rapid, Label-Free Detection of PSA Using Graphene-Based Resistive Sensor

Bolivia Konthoujam{1}, Nikita Bhandari{1}, Shridhar Ghagane{2}, Rajendra Nerli{2}, Sudhanshu Shukla{1}, Ruma Ghosh{1}
{1}Indian Institute of Technology Dharwad, India; {2}KAHER's Dr. Prabhakar Kore Basic Science Research Centre, Belagavi, India

16:45

6251: Fabrication and Evaluation of Textile-Based Laser-Induced Graphene Electrodes for ECG Applications

Theptha J S, Kalpana Settu
Indian Institute of Information Technology, Design & Manufacturing, Kancheepuram, India

15:45 – 17:00

C3L-C: From Physical to Chemical Sensing IV

Room: Tango 3

Session Chair(s): Anwesha Khasnobish, TCS
Chirasree RoyChaudhuri, Bengal Engineering and Science University

15:45

Sensors Letters Paper

6367: Colloidal Gold-Assisted Isolation and Electric Lysis of Small Exosomes for Electrochemical Detection of HER2 Cancer Biomarker

Krishna Thej Pammi Guru{3}, Nusrat Praween{2}, Sreedevi Vallabhapurapu{4}, Srinivasu Vallabhapurapu{4}, Palash Kumar Basu{1}
{1}Indian Institute of Space Science and Technology, India; {2}Indian Institute of Space Science and Technology, Thiruvanthapuram, India; {3}SoC, University of South Africa, India; {4}University of Johannesburg, South Africa

16:00

Sensors Letters Paper

6371: Towards Green Electronics: Screen-Printed MXene-Based Microsupercapacitors on Paper Substrate with Nafion-Based Gel Electrolyte

Sushree Sangita Priyadarsini, Aditi Ghosh, Subho Dasgupta
Indian Institute of Science, India

16:15

Sensors Letters Paper

6366: Linear Multiregime Thermistor Digitizer Featuring Lead-Wire and Self-Heating Compensation

Sajeev Ramachandran{2}, Anoop Chandrika Sreekantan{1}, Roy Thankachan{2}
{1}Indian Institute of Space Science and Technology, India; {2}Vikram Sarabhai Space Centre, Indian Space Research Organisation, Thiruvananthapuram, India

16:30

Sensors Letters Paper

6368: Duty-Ratio Controlled Front-End for Thermistors with Broad Span

Safeer S S{3}, Nani Simhadri{2}, Anoop Chandrika Sreekantan{1}, Vineeth B S{2}, Radhika V N{3}
{1}Indian Institute of Space Science and Technology, India; {2}Indian Institute of Space Science and Technology, Trivandrum, India; {3}ISRO Inertial Systems Unit, Trivandrum, Indian Institute of Space Science and Technology, Trivandrum, India

16:45

Sensors Letters Paper

6372: Real Time Phase Transition Sensor Based on Latent Heat Driven FBG for Sub-Millimeter Ice Accretion Monitoring

Debojyoti Mondal{2}, Sundarrajan Asokan{1}
{1}Indian Institute of Science, Bangalore, India; {2}Pandit Deendayal Energy University, India

15:45 – 17:00
C3L-D: AI for Sensing III
Room: Debate
Session Chair(s): Parikshit Sahatiya, Birla Institute of Technology and Science Pilani Hyderabad Campus
Brendan O'Flynn, Tyndall

15:45
Sensors Letters Paper
6380: Identification of Adulteration and Brands of Packaged Mango Juices Using KNN Model on LDA-Reduced Hydrogel Impedance Data
Ragini Vinay Mehta, Shikha Kaiwart, Dibakar Roy, Suchetan Pal, Avishek Adhikary
Indian Institute of Technology Bhilai, India

16:00
Sensors Letters Paper
6381: Analysis of Pregnancy Progression in Term Condition Using Propagation Features and Uterine EMG Measurements
Vinothini S{1}, Punitha N{1}, Karthick P A{2}, Ramakrishnan S{1}
{1}Indian Institute of Technology Madras, India; {2}National Institute of Technology Tiruchirappalli, India

16:15
Sensors Letters Paper
6365: Evaluation of Shape Variations in Structural MR Images of Fornix in Normal, MCI, and AD Subjects Using Pseudo Zernike Moments
Ahsan Ali{1}, Subha Dharmapalan Puthankattil{2}
{1}Indian Institute of Technology Madras, Chennai, India, India; {2}National Institute of Technology Calicut, India, India

15:45 – 17:00
C3L-E: Cognitive Science for Marketing & Behavior Analysis
Room: Nucleus
Session Chair(s): Shailesh Deshpande, TCS
Debatri Chatterjee, TCS

15:45
Invited Talk
6356: Cognitive Science Insights for Marketing in a Diverse India
Dhurjati Majumdar
Netaji Subhas University of Technology, India

16:15
6284: Understanding the Influence of Mental Fatigue on Emotional States: A Neuromarketing Perspective
Man Patel, Satrajit Kar
TATA Consultancy Services Limited, India

16:30
6286: Neuromarketing Applications: Evolving Trends and the Way Forward
Siddhartha Sarkar, Sachin Patel
TATA Consultancy Services Limited, India

17:00 – 18:00
Gift Exchange and Multicultural Extravaganza See Off Tea
Room: Tango 2