IEEE APSCON 2025
IEEE Applied Sensing Conference
IIT Hyderabad, India // 20-22 January 2025

IEEE Sensors Council

IEEE APSCON 2025
Conference Program
20-22 January, 2025 | IIT Hyderabad, India

2025.ieee-apscon.org

apscon@ghaconferences.com

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Message from the Conference Chairs

Dear colleagues and friends,

On behalf of the organising committee, we welcome you all to present, exhibit, and participate in the IEEE International Conference on Applied Sensing (APSCON 2025) at the convention centre of the Indian Institute of Technology, Hyderabad, India. Hyderabad is a city of rich heritage and represents an amalgamation of different cultures. The contemporary world sees this city as a blend of unique cultures with a touch of modern lifestyle.

Financially sponsored by the IEEE Sensors Council, APSCON 2025 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 inter alia agriculture, healthcare, transportation, energy, infrastructure, industry 5.0, quantum sensors, interfaces, environment, water, robotics, surveillance, security, wearables, navigation, entertainment, manufacturing, automation, immersive technology, etc.

Building on the successes of previous two editions, IEEE APSCON 2025 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. To this end, the conference also has several talks by experts from both industry 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 programme consists of three plenary talks, two keynote and sixteen invited lectures by eminent researchers in the field spread. The technical programme is divided among more than 11 regular tracks and three special sessions. The technical papers in all the above areas have been selected for oral and poster presentations after a detailed peer review. Just as in the previous year, APSCON 2025 offered two options for publication of original works and these included submission to conference (Option A) and IEEE Sensors Letters (Option B). Of the 320 submitted papers (179 papers submitted via Option A and 141 via Option B), a total of 184 papers (137 accepted in Option A and 47 accepted in Option B) will be presented during the conference by delegates from 18 countries (81% from Asia-Pacific, 14% from Europe and Africa, 3% from America region). APSCON also offers the authors of regular papers published in IEEE Sensors Journal and IEEE Sensors Letters, the opportunity to present during the conference.

A total of 11 such presentations are also included on conference programme. The poster papers will be presented on 19 Jan and then again on 20 Jan, 2025.

Our conference delegates will experience the profound insights and expertise of our three distinguished plenary speakers (one on each day):

1. John Rogers (Northwestern University, USA) presenting on "Soft Electronic and Microfluidic Sensors for the Human Body",
2. Aude G. Billard (EPFL, Switzerland), discussing "Robotics and Machine Learning"
3. Stephen Brewster (University of Glasgow, UK), exploring "Human-Computer Interaction".
   and two keynotes:
1. Pragya Yadav (National Institute of One Health, Nagpur & ICMR-NIV, Pune) on "Story of Covaxin Vaccine Development"
2. Gaurav Raina (IIT Madras) on "Digital Payment Revolution of India".

IEEE APSCON 2025 will also have two **pre-conference workshops,** one an "Authors Workshop" and the other on "Autonomous Navigation" on 19 Jan 2025. The technical program will be supplemented with Special Sessions, Live Demonstrations, Sensors Startup Summit, Sensors Standard Opportunities, and a Student Research Forum. The second day of the conference is dedicated to industry and several industry talks will take place, including presentations by sponsors. There are several exhibition stalls on the conference premises and we encourage you to visit them. We have 11 Live Demos, 5 MYOSA demonstrations, 7 Student Research Forum, 12 Sensors Startup demonstrations besides 8 exhibitors including Adani, Boffin Butler, Cactus, Corteva, CREST, IEEE DataPort, SIJ, TiHAN. Our heartfelt thanks to our government sources of sponsorship which are Anusandhan National Research Foundation (ANRF) and DRDO. We greatly appreciate the support from our sponsors.

Under the **Sensors Startup Summit** the 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 programme. Startup Summit Challenge, supported by Startup and Innovation Centre of BITS Pilani Hyderabad, has attracted a total of 12 companies.

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

IEEE Sensors Council's Standards Committee invites to explore sensors domain's standards development opportunities while sharing an overview of its activities in the event of **Sensors Standards Opportunities.**

Industry Day, Sensors Startup Summit and Sensors Standards Opportunities are organizing 3 separate Panel Discussions on 21 Jan, 2025. All these activities and events will culminate in the following awards which will be presented during the Gala Dinner of the conference:

1. Best Paper (Lecture) - 2 awards
2. Best Paper (Poster) - 2 awards
3. WiSe Big Idea Pitch Award - 1 award
4. Student Research Forum Award - 1 award
5. MYOSA (Make Your Own Sensors Applications) Contest - 2 awards
6. Sensors Startup Challenge Award - 3 awards

IEEE Sensors Council has a very active Women in Sensors (WiSe) team. WiSe team is organizing a contest named **"Big Idea Pitch"** in which 13 teams are participating. The best pitch will be awarded. WiSe has also organized a panel discussion on a relevant topic, **"Overcoming the Imposter Syndrome: Empowering Women in STEM".** Among Young Professionals activities. the career talk on the topic, **"Applying a Project Management lens to your job search"** is noteworthy. The **YP Welcome Reception**, planned on 19 Jan 2025 evening, will have a musical night managed and performed by the IIT Hyderabad Music Band "The Vibes".

Conference delegates are also invited to join the **Conference Gala Dinner** on the IIT Hyderabad Campus itself. The Gala Dinner will be preceded by an Indian Classical Dance ensemble performance by the professional troupe of Shijith N Parvathy from Chennai who will present **"Ananda, A divine experience"** on 21 Jan 2025.

Sensors Council is committed to sustainability and in this regard all conference banners are made with eco-benign materials. We have used handloom clothing for conference bags, which will have reusable glass bottles for drinking water during and after the conference. Name badges are printed on handmade papers. Further, we are experimenting poster presentation using portable digital projector so as to eliminate the use of printed posters. This is a new initiative of Sensors Council. However, the poster presentation will be done in usual manner this year.

Sensors Council appreciates the support and contributions of its **Member Societies.** SC's success and growth is tied to their growth. Therefore, APSCON 2025 will give delegates a specially designed table calendar of the Year 2025 showcasing the Science Heritage of India and major events by SC's member societies such as their flagship conferences and their complete information crypted in QR codes.

The Diversity & Inclusion (D&I) Committee of IEEE Sensors Council has announced **travel support for delegates from underserved nations.** Two delegates are availing this support to attend the conference and present their papers. As a social gesture, the WiSe Committee has offered **Child Daycare Grant** for the delegates who have toddlers or small kids to look after. Sensors Council wishes this to be replicated by other societies too. The D&I Committee has also launched an extraordinary social and cultural event for the closing of the conference, i.e., **Multi-Cultural Extravaganza.** This is to embrace diversity and to promote cross-cultural understanding. The delegates are encouraged to showcase the unique activities, traditions, and artefacts of their region or country through an interactive stall. We hope conference delegates will enthusiastically participate in this multicultural extravaganza!

We wish all delegates a very enjoyable and memorable conference, IEEE APSCON 2025!

Ravinder Dahiya, Enakshi Bhattacharya
General co-Chairs

Anil Roy, Thilo Sauter
Technical Program Committee co-Chairs

Cultural Program

Shijith Nambiar and Parvathy Menon, and team present

Ananda

Shijith and Parvathy through their conceptual choreographic elements in this presentation take you on a journey to Ananda.

Ananda, a Garland woven from manifested inner thoughts, is delicately choreographed to stimulate the body mind and soul.

Ananda is a "journey" in pursuit of the eternal bliss , the ultimate experience.

Ananda creates the union of the performer and the observer with the ultimate, and abundance of inexplicable joy is experienced

Ananda
A divine experience
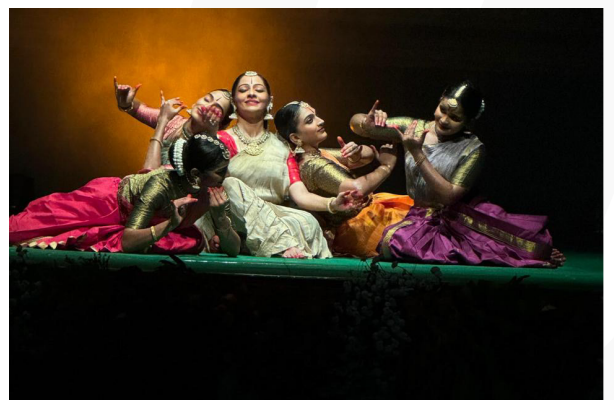
Please join us in Auditorium 1, IIT Hyderabad, 6:30 PM | 21 Jan, 2025

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IIT Madras, India (Retired)

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Amit Ved
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Rajkot, India

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Texas Tech University,
Texas, USA

Ashok Kumar Pandey
IIT Hyderabad,
India

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Vardhaman College of Engineering, Hyderabad, India

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BITS Pilani Hyderabad, India

Jagannath Nayak
DRDO, Hyderabad, India

Live Demo co-Chairs

Ponnalagu R N
BITS Pilani Hyderabad, India

Rajul Patkar
Proximal Soilsens, India

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Saikumar Tara
BVRIT, Hyderabad, India

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Sachin Arya
CEO,
Incubation & Entrepreneurship,
BITS Pilani, India

Saakshi Dhanekar
IIT Jodhpur, India

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Vamsi Krishna Jadala
Director, World Trade Center
Shamshabad & Visakhapatnam

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Agriculture and Food Technology

Kavya Dashora
IIT Delhi, India

Alan O'Riordan
Tyndall National Institute, Ireland

Dineshkumar Singh
TCS, India

Surface, Air, and Water Transportation

Lelitha Devi Vanajakshi
IIT Madras, India

Rolland Vida
Budapest University of Technology and Economics, Hungary

Medical and Digital Healthcare

Dipankar Bandyopadhyay
IIT Guwahati, India

Hamida Hallil
University of Bordeaux, France

Industry 5.0, Manufacturing and Automation

Tapas Chakravarty
TCS, India

Sangeeta Kale
DIAT Pune, India

Environment and Infrastructure Monitoring

Mitradip Bhattacharjee
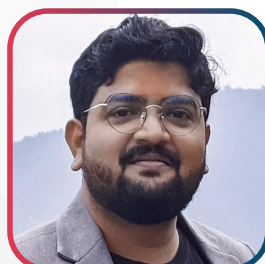IISER Bhopal, India

Siddharth Tallur
IIT Bombay, India

Bérengère Lebental
COSYS-IMSE,
Université Gustave Eiffel, France

Robotics and Digital Twin

Sujay Kadam
DA-IICT, Gandhinagar,
India

Ren C. Luo
National Taiwan University,
Taiwan

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IoT, Wearables and Immersive Technologies

Sharmistha Bhadra
McGill University, Canada

Chonggang Wang
InterDigital Communications
Boston, MA, USA

Mohan Kumar
FANPLAY IoT,
India

Smart Cities and Villages

Veda Sandeep Nagaraja
Tyndall National Institute,
Ireland

Navneet Gupta
BITS Pilani,
India

Sensors Interfaces and Sensors Analytics

Jiro Hirokawa
Tokyo Institute of Technology,
Japan

Raghvendra Chaudhary
IIT Kanpur,
India

Quantum Sensors and Emerging Technologies

Poornendu Chaturvedi
SSPL, Delhi,
India

Georgios Fagas
Tyndall National Institute,
Ireland

Other Novel Applications

Rajan Jha
IIT Bhubaneswar,
India

Vinay Palaparthy
DA-IICT, Gandhinagar,
India

Special Session

"Next-Gen Precise Positioning and Seamless Navigation: From Classical Signal Processing to AI"

Valerie Renaudin
Geoloc Laboratory,
University Gustave Eiffel, France

Joaquin Torress
Department of Computer Science,
Universitat de València,
Av. Universitat, Valencia, Spain.

Pampa Sadhukhan
School of Mobile Computing &
Communication, Salt Lake Campus,
Jadavpur University, India.

"Ocean Observation Systems"

Sarang Dhongdi
BITS Pilani K K Birla Goa Campus,
India

Atmanand
Indian Institute of Technology,
Madras, India
(IEEE Oceanic Engineering Society)

Pramod Kumar Maurya
CSIR-National Institute of
Oceanography, Goa, India

"AI in Sensing"

Arijit Ukil
TCS Research, Kolkata, India

Prasanta Guha
IIT Kharagpur,
India

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Monday | January 20, 2025
Auditorium 1 | 11:30 - 12:30

John Rogers
Northwestern University, USA

"Soft Electronic and Microfluidic Sensors for the Human Body"

The skin is mechanically soft and curved; modern electronic and microfluidic technologies are rigid and planar. Eliminating this profound mismatch in physical properties will create vast opportunities in man-made systems that can naturally integrate with the epidermis, for diagnostic, therapeutic or sensory function with important, unique capabilities relevant to fitness/wellness, sports performance, clinical healthcare and virtual reality environments. Over the last decade, a convergence of new concepts in materials science, mechanical engineering, electrical engineering and advanced manufacturing has led to the emergence of diverse, novel classes of 'biocompatible' electronic and microfluidic systems with skin-like physical properties. This talk describes the key ideas and presents some of the most recent device examples, including (1) wireless, battery-free electronic 'tattoos', with applications in continuous monitoring of vital signs in maternal, neonatal and pediatric populations, including active deployments not only in the most advanced hospitals in the US but also in health clinics in multiple countries in Africa, and in India, Pakistan, Mexico and Brazil, (2) microfluidic platforms that can capture, manipulate and perform biomarker analysis on microliter volumes of sweat, with applications in cystic fibrosis screening and nutritional monitoring.

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Tuesday | January 21, 2025
Auditorium 1 | 10:30 - 11:30

Aude G. Billard
EPFL, Switzerland

"Robotics and Machine Learning"

Aude G. Billard is a Swiss physicist in the fields of machine learning and human-robot interactions. She is a full professor at the School of Engineering at Swiss Federal Institute of Technology in Lausanne (EPFL). Billard's research focuses on applying machine learning to support robot learning through human guidance. An IEEE Fellow, Prof. Billard is also the President of the IEEE Robotics and Automation Society (2024-25).

Wednesday | January 22, 2025
Auditorium 1 | 10:30 - 11:30

Stephen Brewster
University of Glasgow, UK

"Human Computer Interaction"

Stephen Brewster is a Professor of Human-Computer Interaction in the Department of Computing Science at the University of Glasgow, UK. His main research interest areas are Multimodal Human-Computer Interaction, sound and haptics and gestures. He also contributed immensely into Earcons, a particular form of non-speech sounds.

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Monday | January 20, 2025
Auditorium 1 | 13:30 - 14:15

PRAGYA D. YADAV

Indian Council of Medical Research-
National Institute of Virology, India

"The Lessons Learned From the Pandemic and the Future Preparedness of India"

She is currently working as Director-in-charge, National Institute of One Health, Nagour and Scientist 'F' and leading Asia's first Biosafety Level-4 laboratory at Indian Council of Medical Research-National Institute of Virology (ICMR-NIV), Pune, India. With her extensive experience in the field of virology, she has contributed significantly to the understanding of emerging viral infections in India.

She has obtained PhD in Virology from the Savitribai Phule Pune University, Pune in 2004 and joined as a Scientist in ICMR-NIV, Pune. Since then, actively involved in the surveillance and research of emerging viral infections. She had make significant contributions in the field of virology and biocontainment science, human and animal Virology, health sciences, epidemiology, biomedical sciences, molecular biology, public health, research & development, biocontainment science, translational research, and preclinical vaccine studies in animal model with the special focus on highly infectious viral pathogens. She has shown a sincere commitment towards her work and dedicated efforts in virology research which led to the discovery of many novel viruses, quick investigation of viral outbreaks such as Crimean-Congo hemorrhagic fever, Kyasanur Forest Disease, Nipah, Zika virus, and mpox virus. Further, she was involved in the development of novel diagnostic assays, transfer of technology for commercial production, sharing of diagnostic reagents with SEAR Member state and towards preparedness of the public health system to deal with threats like Ebola, Yellow fever, SARS-CoV-2 and mpox in India. The two decades of experience of working on highly pathogenic Risk group-3 & 4 viruses have added advantage to the public health system in timely identification and containing the outbreaks in the country. During the COVID-19 pandemic, she made sincere efforts in quick isolation of SARS-CoV-2 virus from India which was utilized by Bharat Biotech International Limited to generate the first indigenous vaccine (COVAXIN™). Subsequently, preclinical studies for COVAXIN™ were carried out successfully which paved the way of vaccine candidate further towards clinical trials. This is the one of the biggest scientific achievements in the history of ICMR and Indian Science.

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Tuesday | January 21, 2025
Auditorium 1 | 13:30 - 14:15

Gaurav Raina
IIT Madras, India

"UPI (Unified Payments Interface): The Untold Story"

Mobile based solutions like UPI (Unified Payments Interface) are a household name today. However, few are aware of the journey that has led to its ubiquitous presence in India. UPI has changed the retail payments landscape in India, and is now being adopted by countries around the world. When did the vision for a democratic retail payments world start? To make even a small valued transaction, which are the entities that came together to imagine such a new world for payments? How were the rules of the game set up? How were the rules constructed to protect the public good and unlock innovation? In this talk, we will unravel the untold story of UPI; a solution that is used by more than 300 million Indians, and accounts for over 75% of all digital transactions that take place in India.

Dr Raina completed his Phd, in Mathematics, from Trinity College, University of Cambridge, UK. After doing his post-doctoral research, also in Cambridge University, he joined the faculty in IIT Madras. He is currently a Professor in Electrical Engineering at IIT Madras. His research interests span control and dynamic systems, performance evaluation of large scale engineering systems like the Internet and transport systems, and machine learning.

He was Chair, Technology Committee (2009-2013) and subsequently Chair (2017-2021), Mobile Payment Forum of India; the body that helped to architect and develop the standards for mobile-based payments (IMPS and UPI) in India. He currently serves on the technology boards of Ayushman Bharat Digital Mission (ABDM) and Unified Health Interface (UHI). Since 2019, he also drives an IIT Madras incubated company in data science for industry, which aims to infuse machine learning and AI into products and services.

Tuesday | January 21, 2025 | Seminar Room 2 | 14:30 - 18:15

"Overcoming the Imposter Syndrome: Empowering Women in STEM"

Imposter syndrome is a pervasive issue in academia and research, affecting individuals across all career stages. It manifests as feelings of self-doubt and inadequacy, despite evidence of competence and achievements. This panel discussion, featuring psychologists and women researchers, delves into the challenges of imposter syndrome and offers strategies for overcoming it to foster a healthier, more fulfilling work life.

Academia is an environment of high expectations and relentless competition. For women in particular, systemic biases and underrepresentation in leadership roles can exacerbate the pressure to prove themselves. One significant aspect of combating imposter syndrome is understanding its psychological underpinnings. Psychologists on the panel will explore how societal, cultural, and personal factors intertwine to perpetuate this phenomenon, and will offer evidence-based insights on how individuals can reframe their self-perception.

As we strive to develop the next generation Women Leaders in the engineering field, the researchers on the panel will share their lived experiences of navigating imposter syndrome in their careers. Their stories highlight the challenges of self-doubt in specialized fields and demonstrate the importance of resilience, mentorship, and community support. Ultimately, addressing imposter syndrome requires a collective effort to cultivate more inclusive, supportive environments, thus it is fundamental to share this topic with female and male colleagues of different levels and age.

This panel aims to spark an open dialogue about imposter syndrome in the IEEE community, providing not only awareness but also actionable steps to empower academics and researchers to thrive in their careers.

Anchors

Paola Saccomandi
Politecnico di Milano,
Italy

Anwesha Khasnobish
TCS, India

Panelists

Aude Billard
EPFL,
Switzerland

Mayuri Duggirala
TCS Research, India
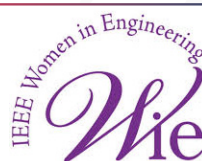
Pallavi Eswara
Director, Postdoctoral Affairs
Boston University

Anusmita Das
IIT Hyderabad, India

WiSe Event Sponsor

IEEE Women in Sensors

IEEE Women in Engineering
Wie

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Tuesday | 21 January 2025 | Auditorium 1 | 8:30 – 10:00

"Remote Sensing"

Anchors

Speaker

Shailesh Shankar Deshpande

TCS Research,
India

Speaker

Dan McGrath

Techinsights,
Senior Technical Fellow,
Image Sensor

"Sensing needs and challenges in modern age precision farming"

Speaker

Dinesh Singh

Group Leader,
TCS Digital Food Initiative (DFI),
TCS research and Innovation

"Importance of onboard computing in solving remote sensing problems"

Speaker
Adithya K
Chief product officer,
SkyServe

"Vision foundation models in remote sensing"

Speaker
Biplab Banerjee
Prof. IIT Bombay

"Sensors and AI in field phenotyping"

Speaker
Potnuru Chaitanyam
Senior Imaging Data Scientist,
Corteva Agriscience

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Tuesday | 21 January 2025 | Seminar Room 2 | 8:30 - 10:00

Sensors Standards Opportunities Session

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).

Anchor

Sayan Kanungo
BITS Pilani Hyderabad,
India

"IEEE Sensor Standardization"

Speaker

Gopalakrishna Kuppa
Chair, India Work Group,
IEEE P 1451.99 IOT Harmonization project at
IEEE Standards Association

"Wi-Fi Sensing and its Standardization"

Speaker

N. Venkatesh

Silicon Labs,
Hyderabad

"MEMS/NEMS based Sensors"

Speaker

Sanket Goel

Dean (Research and Innovation),
Professor, BITS-Pilani,
Hyderabad Campus

"Emerging Trends and Challenges in Inertial Sensors"

Speaker

Jagannath Nayak

DRDO Outstanding Scientist
Director CHESS

"Sensor Hub for IoT Nodes"

Speaker

Ravitej Tanneru

Silicon Labs,
Hyderabad

Tuesday | 21 January 2025 | Seminar Room 2 | 11:30 - 12:30

"Taking Deeptech Innovations from Lab to Market"

Bridging the gap between Deeptech innovation and market adoption is a complex and multifaceted challenge. Deeptech innovations, characterized by their reliance on advanced science and engineering, often face hurdles that are distinct from other types of innovation.

Then, the Deeptech ventures typically demand long development cycles and substantial investment. However, traditional venture capitalists often prefer quicker returns, leading to a funding gap for deeptech startups. This "valley of death" between research funding and commercial investment is a significant barrier. It's the Government who does the heavy lifting of providing funds to such ventures at the initial stages. With multiple programs from various departments and ministries, the ideas can come to at least prototype stage, from where the angel investors and VCs can supporting them in scaling up.

The panel discussion on "Taking Deeptech Innovations from Lab to Market" will explore the critical journey of deep tech startups as they transition from research to commercialization.

The panelists will cover the discussion from the following dimensions:
- Faculty and lab research as the foundation for deep tech innovation
- Challenges and Issues in taking such innovations forward.
- Translation and commercialization of the innovative ideas through a startup venture
- Government Support for Deep-tech Innovations at the early stage
- Venture Capitalist Point of View on Lab based Innovations
- Practical advice on taking the innovation forward

Anchors

Sachin Arya
CEO,
Incubation & Entrepreneurship,
BITS Pilani, India

Saakshi Dhanekar
IIT Jodhpur,
India

Sensors Startup Summit Panel (cont.)

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Panelists

Praveen Roy
Advisor and Head,
(TTI) Division

Pranav Koshal
Investment Team,
Kalaari Capital

Kausthub Kaundinya
Co-Founder,
Jarsh Safety

Madhan Raj Kanagarathinam
Architect,
Samsung Electronics

Malathi Kar
Senior Manager,
MaskTech Operations,
Micron

Sanket Goel
BITS Pilani, Hyderabad India

Poster Layout

Sunday | 19 January 2025 | Cafe Open Space | 15:30 - 17:30

Monday | 20 January 2025 | Cafe Open Space | 16:00 - 16:30

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1571069730 (T9) --------►	
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	◄-------- 1571073284 (T1)
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1571073165 (T9) --------►	◄-------- 1571073556 (T1)
	◄-------- 1571068482 (T2)
1571073466 (T9) --------►	
1571073426 (T10) --------►	◄-------- 1571061241 (T3)
	◄-------- 1571068905 (T3)
1571068801 (T10) --------►	
1571069810 (T11) --------►	◄-------- 1571069152 (T3)
	◄-------- 1571069287 (T3)
1571073332 (T11) --------►	
1571073672 (T11) --------►	◄-------- 1571069567 (T3)
	◄-------- 1571070493 (T3)
1571082231 (T14) --------►	
1571085296 (T14) --------►	◄-------- 1571071954 (T3)
	◄-------- 1571073286 (T3)
1571084897 (T15) --------►	
1571082773 (T16) --------►	◄-------- 1571073644 (T3)
	◄-------- 1571073651 (T3)
1571085283 (T16) --------►	
1571085285 (T16) --------►	◄-------- 1571074365 (T3)
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1571084395 (T16) --------►	◄-------- 1571073276 (T5)
	◄-------- 1571069698 (T6)
1571081423 (T18) --------►	
1571088406 (T18) --------►	◄-------- 1571069551 (T7)
	◄-------- 1571069709 (T7)
1571095229 (T18) --------►	
1571094431 (T18) --------►	◄-------- 1571069822 (T7)
	◄-------- 1571073656 (T7)
1571101391 (T18) --------►	
1571085134 (T5) --------►	

Time	Event
09:00	**Workshop Registration**
09:15	
09:30	
09:45	
10:00	**Pre-Conference Workshop – I**
10:15	
10:30	Topic 1: Structuring your manuscript to get published
10:45	
11:00	Topic 2: From draft to submission: AI tools for optimizing the research workflow
11:15	Expert: Hema Thakur (Lead, Skill and Knowledge Management, Editage)
11:30	
11:45	Organized by: Canctus Communications
12:00	
12:15	
12:30	**Lunch**
12:45	
13:00	
13:15	
13:30	**Pre-Conference Workshop – II**
13:45	Topic 1 (13:30 - 14:10): Autonomous Navigation Testbed and multimodal sensor technologies developed at TiHAN
14:00	Speaker: Prof. P. Rajalakshmi, IITH
14:15	
14:30	Topic 2 (14:10 - 14:50): Connected vehicle technologies development at IITH
14:45	Speaker: Prof. Abhinav, IITH
15:00	**TEA-BREAK** Visit to TiHAN Facility (15:00 - 15:30)
15:15	
15:30	**POSTER SESSION with Tea/Coffee**
15:45	Session Chair 1: Rajan Jha
16:00	Session Chair 2: Gautam Bacher
	Session Chair 3: Vibhor Saraf
16:15	1571073548 (T1), 1571074226 (T1), 1571069787 (T1), 1571069843 (T1), 1571073284 (T1), 1571073556 (T1), 1571068482 (T2), 1571061241 (T3), 1571068905 (T3), 1571069152 (T3), 1571069287 (T3), 1571069567 (T3), 1571070493 (T3),
16:30	1571071954 (T3), 1571073286 (T3), 1571073644 (T3), 1571073651 (T3), 1571074365 (T3), 1571073517 (T4), 1571073276
16:45	(T5), 1571069698 (T6), 1571069551 (T7), 1571069709 (T7), 1571069822 (T7), 1571073656 (T7), 1571073361 (T8), 1571069608 (T9), 1571069662 (T9), 1571069730 (T9), 1571069795 (T9), 1571073165 (T9), 1571073466 (T9), 1571073426
17:00	(T10), 1571068801 (T10), 1571069810 (T11), 1571073332 (T11), 1571073672 (T11), 1571082231 (T14), 1571085296 (T14), 1571084897 (T15), 1571082773 (T16), 1571085283 (T16), 1571085285 (T16), 1571085300 (T16), 1571084395(T16) ,
17:15	1571081423 (T18), 1571088406 (T18), 1571094431 (T18), 1571095229 (T18), 1571101391 (T18), 1571085134 (T5)
17:30	
17:45	
18:00	
18:15	
18:30	**WiSe/YP WELCOME RECEPTION**
18:45	**(ALL INVITED)**
19:00	**NEAR THE WATER BODY**
19:15	
19:30	

	Agriculture and Food Technology-I (Auditorium 1)	Next-Gen Seamless Positioning and Navigation (Seminar Room 1)	Medical and Digital Healthcare-I (Seminar Room 2)	IoT, Wearables and Immersive Technologies-I (Seminar Room 3 & 4)
08:00	Registration			
08:15				
08:30	Invited Talk: Kavya Dashora Session Chair 1: Kavya Dashora Session Chair 2: Vinay Palaparthy	Invited Talk: Joaquín Torres-Sospedra Session Chair 1: Valerie Renaudin Session Chair 2: Joaquín Torres-Sospedra	Invited Talk: Dipankar Badyopadhyay Session Chair 1: Dipankar Badyopadhyay Session Chair 2: Bakul Gohel	Invited Talk: Sharmistha Bhadra Session Chair 1: Sharmistha Bhadra Session Chair 2: Dhiman Mallick
08:45				
09:00	1571067081 (T1)	1571074792 (T14)	1571069265 (T3)	1571069316 (T7)
09:15	1571068177 (T1)	1571077739 (T14)	1571073640 (T3)	1571074090 (T7)
09:30	1571069056 (T1)	1571069532 (T9)	1571074246 (T3)	1571069775 (T7)
09:45	1571069125 (T1)	1571073469 (T9)	1571086509 (T18)	1571070505 (T7)
10:00	1571097024 (T18)	1571073242 (T11)	1571103531 (T19)	1571102657 (T19)
10:15	1571101698 (T19)		1571103540 (T19)	
10:30	Tea Break			
10:45				
11:00	Opening Ceremony			
11:15				
11:30	PLENARY TALK John Rogers (Northwestern University) "Soft Electronic and Microfluidic Sensors for the Human Body" Auditorium 1 Session Chair: Rudra Pratap			
11:45				
12:00				
12:15				
12:30	Lunch			
12:45				
13:00				
13:15				
13:30	KEYNOTE TALK Pragya Yadav (Indian Council of Medical Research, National Institute of Virology, India) "The Lessons Learned from the Pandemic and the Future Preparedness of India" Session Chair: Anil Roy			
13:45				
14:00				
14:15				
	Sensors Interfaces and Sensors Analytics-I (Auditorium 1)	Quantum Sensors and Emerging Technologies-I (Seminar Room 1)	Environment and Infrastructure Monitoring-I (Seminar Room 2)	Industry 5. 0, Manufacturing and Automation (Seminar Room 3 & 4)
14:30	Invited Talk: Jiro Hirokawa Session Chair 1: Jiro Hirokawa Session Chair 2: Shrutidhara Sarma	Invited Talk: Poornendu Chaturvedi Session Chair 1: Poornendu Chaturvedi Session Chair 2:	Invited Talk: Mitradip Bhattacharjee Session Chair 1: Mitradip Bhattacharjee Session Chair 2: Niharika Gogoi	Invited Talk: Sangeeta Kale Session Chair 1: Sangeeta Kale Session Chair 2: Parijat Deshpande
14 :45				

Time				
15:00	1571039578 (T9)	1571097131 (T19)	1571069777 (T5)	1571067270 (T4)
15:15	1571062339 (T9)	1571098198 (T19)	1571107156 (T19)	1571073584 (T4)
15:30	1571068113 (T9)	1571101561 (T19)	1571097147 (T19)	1571097716 (T19)
15:45	1571069257 (T9) 1571073723 (T9)	1571105274 (T19)	1571100990 (T19)	1571103315 (T19)

Time	**POSTER SESSION with Tea/Coffee**
16:00	Session Chair 1: Brendan OFlynn Session Chair 2: Santanu Talukder Session Chair 3: Sajeev Ramachandran
16:15 16:30	1571073548 (T1), 1571074226 (T1), 1571069787 (T1), 1571069843 (T1), 1571073284 (T1), 1571073556 (T1), 1571068482 (T2), 1571061241 (T3), 1571068905 (T3), 1571069152 (T3), 1571069287 (T3), 1571069567 (T3), 1571070493 (T3), 1571071954 (T3), 1571073286 (T3), 1571073644 (T3), 1571073651 (T3), 1571074365 (T3), 1571073517 (T4), 1571073276 (T5), 1571069698 (T6), 1571069551 (T7), 1571069709 (T7), 1571069822 (T7), 1571073656 (T7), 1571073361 (T8), 1571069608 (T9), 1571069662 (T9), 1571069730 (T9), 1571069795 (T9), 1571073165 (T9), 1571073466 (T9), 1571073426 (T10), 1571068801 (T10), 1571069810 (T11), 1571073332 (T11), 1571073672 (T11), 1571082231 (T14), 1571085296 (T14), 1571084897 (T15), 1571082773 (T16), 1571085283 (T16), 1571085285 (T16), 1571085300 (T16), 1571084395(T16) , 1571081423 (T18), 1571088406 (T18), 1571094431 (T18), 1571095229 (T18), 1571101391 (T18), 1571085134 (T5)

Time	**Agriculture and Food Technology-II (Auditorium 1)**	**Surface, Air, and Water Transportation (Seminar Room 1)**	**Environment and Infrastructure Monitoring-II**	**AI for Sensing-I (Seminar Room 3&4)**
16:45 17:00	Invited Talk: Alan O'Riordan Session Chair 1: Alan O'Riordan Session Chair 2: Amruta Ranjan Behera	Invited Talk: Rolland Vida Session Chair 1: Rolland Vida Session Chair 2: Thilo Sauter	(Seminar Room 2) Session Chair 1: Parikshit Sahatiya Session Chair 2: Santanu Talukder 1571106018 (T19) 1571105103 (T19)	Invited Talk: Soumyo Mukherji Session Chair 1: Soumyo Mukherji Session Chair 2: Prasanta Guha
17:15	1571073728 (T1)	1571069790 (T9)	1571103539 (T19)	1571084781 (T16)
17:30	1571070920 (T1)	1571073476 (T11)	1571096109 (T17)	1571085763 (T16)
17:45	1571062021 (T1)	1571084904 (T15)	1571105140 (T19)	1571085087 (T16)

Time	
18:00	
18:15	
18:30	
18:45	
19:00	
19:15	**APPRECIATION DINNER** **FOR** **TRACK CHAIRS, ORGANIZING COMMITTEE MEMBERS & INVITED SPEAKERS**
19:30	
19:45	
20:00	
20:15	
20:30	
20:45	
21:00	

Time		
08:00	**Registration & Help Desk**	
08:15		
08:30	**INDUSTRY PANEL** Topic: Remote Sensing Auditorium 1	Sensors Standards Opportunities (Seminar Room 2)
08:45	**Panelists:** 1. Prakash Chauhan, Director, National Remote Sensing Centre 2. Dinesh Singh, TCS Digital Food Initiative (DFI) 3. Adithya K, Chief product officer, SkyServe 4. Biplab Banerjee, IIT Bombay 5. Nikhil Rajput, CEO and Co-founder NxtCube Moderator: Shailesh Deshpande, TCS, Pune	**Anchor:** Sayan Kanungo Gopalakrishna Kuppa (Invited Talk) N Venkatesh Sanket Goel Jagannath Nayak Ravitej Tanneru
09:00		
09:15		
09:30		
09:45		
10:00	**Tea Break**	
10:15		
10:30	**PLENARY TALK** Aude D. Billard (EPFL, Switzerland) "Robotics and Machine Learning" **Auditorium 1** Session Chair: Ravinder Dahiya	
10:45		
11:00		
11:15		
11:30	**WiSe BIG IDEA PITCH** **Auditorium 1** Session Chair 1: Sangeeta Sinha Session Chair 2: Abhishek Appaji	**Sensors Startup Summit** **PANEL DISCUSSION** **Seminar Room 2** Moderator: Sachin Arya Panelists: Praveen Roy Kausthub K Pranav K T S Suneel
11:45		
12:00		
12:15		
12:30	**Lunch**	
12:45		
13:00		
13:15		
13:30	**KEYNOTE TALK** Gaurav Raina (IIT Madras) UPI (Unified Payments Interface): The Untold Story **Auditorium 1** Session Chair: Thilo Sauter	
13:45		
14:00		

14:15	**MYOSA CONTEST, LIVE DEMO, STARTUP PAVILION & POSTER SESSION with Tea/Coffee** **MYOSA Contest** Session Chair 1: Mitradip Bhattacharjee Session Chair 2: Abhi Ratnman Contestants: 571202520-M, 571202521-M, 1571202522-M, 571202523-M, 571202524-M
14:30	**Live Demo** Session Chair 1: RN Ponnalagu Session Chair 2: Rajul Patkar IDs: 1571202502 (T12), 1571202503 (T12), 1571202501 (T12), 1571202504 (T12), 1571202505 (T12), 1571202506 (T12, 1571202507 (T12), 1571202508 (T12), 1571202511 (T12), 1571202515 (T12), 1571202516 (T12), 1571202517 (T12) 1571202518 (T12), 1571202519 (T12) 1571202520 (T12)
14:45	**Student Research Forum** Session Chair 1: Chirasree RoyChaudhuri Session Chair 2: Parikshit Sahatiya IDs: 1571076107 (T13), 1571089061 (T13), 1571090341 (T13), 1571090506 (T13), 1571089567 (T13), 1571088175 (T13), 1571088200 (T13)

15:00 **15:15** **15:30** **15:45** **16:00** **16:15**	**CAREER TALK (a Young Professionals Event)** **(Auditorium 1)** Topic: Applying a Project Management lens to your job search Speaker: Pallavi Eswara, Boston University, USA Session Chair: Sangeeta Singh	**Sensors Startup Challenge** **(Seminar Room 2)** Session Chair 1: Saakshi Dhanekar Session Chair 2: Sachin Arya	**DataThon** **(Seminar Room 3&4)** Session Chair 1: Anjali Diwan Session Chair 2: Mousmi Chaurasia

16:30 **16:45** **17:00** **17:15** **17:30** **17:45** **18:00** **18:15**	**PANEL DISCUSSION (Women in Sensors Event)** **Seminar Room 2** Topic: Overcoming the Imposter Syndrome: Empowering Women in STEM Panelists: Aude Billard, Mayuri Duggirala, Pallavi Eswara, Rajul Patkar, Anusmita Das, Saakshi Dhanekar Session Chair 1: Anwesha Khasnobish Session Chair 2: Paola Saccomandi
18:30 **18:45** **19:00** **19:15** **19:30**	**Cultural Program** **Gala Dinner**

Wednesday, January 22, 2025

08:00	**Registration & Help Desk**
08:15	

	Agriculture and Food Technology-III (Auditorium 1) Invited Talk: Dinesh Singh Session Chair 1: Dinesh Singh Session Chair 2: Shailesh Deshpande	Environment and Infrastructure Monitoring-III (Seminar Room 1) Invited Talk: Siddharth Tallur Session Chair 1: Siddharth Tallur Session Chair 2: Ruchi Gupta	Medical and Digital Healthcare-II (Seminar Room 2) Invited Talk: Satyavrata Samavedi Session Chair 1: Satyavrata Samavedi Session Chair 2: Saptarshi Majumder	IoT, Wearables and Immersive Technologies-II (Seminar Room 3&4) Invited Talk: Mohan Kumar Session Chair 1: Mohan Kumar Session Chair 2: Siddhartha Panda
08:30				
08:45				
09:00	1571069785 (T1)	1571065969 (T5)	1571073500 (T3)	1571073897 (T7)
09:15	1571073550 (T1)	1571068658 (T5)	1571073639 (T3)	1571074293 (T7)
09:30	1571078330 (T1)	1571095637 (T17)	1571098089 (T19)	1571085138 (T7)
09:45	1571076434 (T18)	1571075558 (T18)	1571078307 (T18)	1571073646 (T7)
10:00	**Tea Break**			
10:15				
10:30	**PLENARY TALK** Stephen Brewster (University of Glasgow, Scotland) "Human Computer Interaction" **Auditorium 1** Session Chair: Enakshi Bhattacharya			
10:45				
11:00				
11:15				
11:30	AI in Sensing-II (Auditorium 1) Session Chair 1: Rolland Vida Session Chair 2: Amit Kumar 1571098654 (T19) 1571095822 (T18) 1571097148 (T19)	Robotics & Digital Twin (Seminar Room 1) Session Chair 1: Sujay Kadam Session Chair 2: Bakul Gohel 1571105012 (T19) 1571096210 (T17) 1571095579 (T17)	Medical and Digital Healthcare-III (Seminar Room 2) Session Chair 1: Lopamudra Giri Session Chair 2: Renu John 1571068544 (T3) 1571096680 (T17) 1571096981 (T19) 1571104883 (T19) 1571098182 (T19)	Emerging Technologies-I (Seminar Room 3&4) Session Chair 1: Shovan Bhaumik Session Chair 2: Siva Rama Krishna Vanjari 1571073721 (T8) 1571073613 (T9) 1571068483 (T11) 1571101747 (T19)
11:45				
12:00				
12:15				
12:30				
12:45	**Lunch**			
13:00				
13:15				

	Sensors Interfaces and Sensors Analytics-II (Auditorium 1) Invited Talk: Subho Dasgupta Session Chair 1: Subho Dasgupta Session Chair 2: Deepika Gupta	Quantum Sensors and Emerging-II Technologies (Seminar Room 1) Session Chair 1: Poornendu Chaturvedi	Medical and Digital Healthcare –IV (Seminar Room 2) Session Chair 1: Venkatesh KP Rao Session Chair 2: Indrajit Kar	Emerging Technologies-II (Seminar Room 3&4) Invited Talk Session Chair 1: Santanu Talukder Session Chair 2: Santhosh Reddy Dhendi	Emerging Technologies-III (Seminar Room 5) Session Chair 1: Mousmi Chaurasia Session Chair 2: Abhishek Jani
13:30					
13:45		1571069387 (T11) 1571073622 (T11) 1571096811 (T17) 1571093153 (T18) 1571103508 (T19) 1571107267 (T19)	1571069272 (T3) 1571072507 (T3) 1571073116 (T3) 1571068203 (T9) 1571073661 (T9)	1571085160 (T9) 1571069101 (T11) 1571095528 (T17) 1571099825 (T19) 1571102814 (T19)	1571069838 (T7) 1571096938 (T19) 1571107643 (T19) 1571108401 (T19) 1571110959 (T19) 1571102807 (T19)
14:00	1571073224 (T9) 1571069172 (T9) 1571072982 (T9) 1571069257 (T9)				
14:15					
14:30					
14:45					
15:00					
15:15	**MULTICULTURAL EXHIBITION GIFT EXCHANGE & SEE-OFF TEA** Session Chair 1: Amit Kumar Session Chair 2: Abhishek Appaji Session Chair 3: Saikumar Tara Session Chair 4: Vamsi Krishna Jadala				
15:30					
15:45					
16:00					

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IEEE Applied Sensing Conference
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09:00 - 09:30
Workshop Registration

09:30 – 12:15
Pre-Conference Workshop - I
Topic 1: Structuring your manuscript to get published
Topic 2: From draft to submission: AI tools for optimizing the research workflow
Expert: Hema Thakur (Lead, Skill and Knowledge Management, Editage)
Organized by: Canctus Communications
Session Chair: Anil Roy, DA-IICT

12:30 – 1:30
Lunch

13:30 – 14:50
Pre-Conference Workshop - II
Topic 1 (13:30 - 14:10): Autonomous Navigation Testbed and multimodal sensor technologies developed at TiHAN
Speaker: Prof. P. Rajalakshmi, IITH
Topic 2 (14:10 - 14:50): Connected vehicle technologies development at IITH
Speaker: Prof. Abhinav, IITH

15:00 – 15:30
TEA-BREAK
Visit to TiHAN Facility

15:30 – 17:30
POSTER SESSION with Tea/Coffee

1571073548 (T1): Enhancing Smart Greenhouse Management System Using Hybrid Machine Learning Model
Dr. Tanima Bhowmik (CSE AIML Department,Institute of Engineering and Management,
Salt Lake, Kolkata, India)

1571074226 (T1): Adaptive Prediction of Pests and Diseases in Tomato With Granular Ambient and Field Sensing
Vidit Mahesh Patil (Tata Consultancy Services Limited, Thane,India)

1571069787 (T1): Design and Development of a Feasibility Prototype for the Non-Invasive Detection of Fat Content in Milk
M B Shripasyanthi (UM-DAE, CEBS, India)
Shri Vidhatri M M (International Institute of Information Technology, Hyderabad, India)
M Sivaramakrishna and Chitrakkumar S (IGCAR, India)

1571069843 (T1): Non-Faradaic Electrochemical Impedance-Based Quantification of Fusarium Fujikuroi Using a Leaf-Based Biodegradable Sensing Platform
Tejas R Naik (Indian Institute of Technology Bombay, India & University of Glasgow, United Kingdom (Great Britain)
Rhea Patel, Shanaia Tabitha Da Cruz Fernandes and Aditya Anant Morajkar (Goa University, India)

1571073284 (T1): IoT and Supervised Machine Learning Factored Precision Agriculture: Enhancing Crop Yield Prediction and Recommendations.
Surya Thangaraju and Balaji K (VIT, India)
Madhav Rao (International Institute of Information Technology - Bangalore, India)

1571073556 (T1): Fluorescence Spectroscopy of Milk to Detect Edible Oil Adulteration: A Potential Challenge for Dairy Industry
Atindra Kanti Mandal (Indian Institute of Technology Bombay, India)
Barnali Ghatak (Computational Intelligence Lab & Jadavpur University, India)
Mainak Mondal (NIDHI EIR Fellow, India); Bipan Tudu (Jadavpur University, Kolkata, India)
Nityananda Das (J. K. College Purulia, India)
Rajib Bandyopadhyay (Jadavpur University, India)
Soumyo Mukherji (Indian Institute of Technology Bombay, India)

1571068482 (T2): Fusion of Thermal and RGB Images for Traffic Object Detection
Anirud Nandakumar (Indian Institute of Technology, Madras, India)
Lelitha Devi Vanajakshi (IIT Madras, India)
Chandrashekar Lakshminarayanan (Indian Institute of Technology, Madras, India)

1571068905 (T3): A Gamified System for Remote Non-Invasive Patient Respiratory Monitoring and Pulmonary Rehabilitation
Sriya Vaitheeswaran (Sastra Deemed University, India)
Vidya Gopal T V (Indian Institute of Technology, Hyderabad, India)
Ranganadh Kollapureddi (Foundation for CfHE, India)
Renu John (Indian Institute of Technology, India)

1571068905 (T1): Fabrication of Eco-Friendly 3D Origami-Based Fabric Microfluidics Channels
Lingadharini P (Vellore Institute of Technology, India)
Debashis Maji (VIT Vellore & IIT Kharagpur, India)

1571069152 (T3): Flexible Organic Photodetectors with PEIE Electron Transport Layer for Photoplethysmography (PPG) Under Ambient Light Conditions
Hossein Anabestani, Zeljko Zilic and Sharmistha Bhadra (McGill University, Canada

1571069287 (T3): Opto-Electronically Derived PPG-Based Non-Invasive Sensor for Multiparameter Detection
T A Amrutha, Binu Nair, Vedashree Sirdeshmukh and Sangeeta Kale
(Defence Institute of Advanced Technology, India)

1571069567 (T3): Electrochemical Detection of E. Coli Using Polysaccharide Modified ZnO Nanoparticles
Vedashree Sirdeshmukh (MIT School Bioenginering Sciences & Research, MIT ADT University, Pune, India)
Lokesh Shaarma (MIT ADT University, Pune, India)
Chandrakant Tagad (Dept of Biochemistry, SBES college of Science, Chhatrapati Sambhaji Nagar, India)
Anup Kale (MIT World Peace University, India)

1571070493 (T3): Design of Sub-20nm Nanosheet FET Based Label Free Biosensor
Ummadisetti Gowthami (SRM University AP, India)
Matta Durga Prakash (SRM University-AP, Andhra Pradesh, India)

1571071954 (T3): Geometric Parameter Feature Extraction for Off-Device AI-Based Electronic Nose for Lung Cancer
Oluwadamilola Oshin (Covenant University, Nigeria)
Funmilayo Moninuola (Black Pearl Technology, Nigeria)
Obiseye O Obiyemi (Durban University of Technology, South Africa)
Ademola Adeyeye (Afe Babalola University, Nigeria)
Emmanuel Adetiba (Covenant University, Ota, Nigeria); Aderemi A. Atayero (Russia)

1571073286 (T3): Racial Bias in Multimodal Classification of Healthcare Data - Evidence From MIMIC-IV
Suchit Bhai Patel and Pranjali Attarde (BITS-Pilani Hyderabad Campus, India)
Manik Gupta (BITS Pilani, India)

1571073644 (T3): Computational-Efficient Morphology Zone Search in Peripheral Blood Smear for Identification of Atypical Blood Cell Morphologies
S Sree Niranjanaa Bose, Aarthi Sathya Narayanan and Yogeshwar S (Bosch Global Software Technologies, India)
Varalakshmi Perumal and Shivani Parayil (Bosch Global Software Technologies Private Limited, India)
Bharathi Kannan Natarajan (Bosch Global Software Technologies Pvt Ltd., India)
Shefali Karve Hemanth and Murali Mohan (Bosch Global Software Technologies, India)

1571073651 (T3): Investigating Skin Deformation: The Impact of Indenter Diameter and Thickness on Mechanical Properties
Pradeep Shukla (Birla Institute of Technology and Science, India)
Diplesh Gautam (Sri Balaji University, Pune, India)
Venkatesh KP Rao (Birla Institute of Technology and Science, Pilani & BITS Pilani, India)

1571074365 (T3): Nonlinear Diffractive Imaging Through Strongly Scattering Media Using Levenberg Marquardt Algorithm
Asim Asrar (Indian Institute of Technology Kharagpur, India)
Pranab Kumar Dutta (IIT Kharagpur, India)

1571073517 (T4): Revolutionizing Kitchen Gardening: A Comprehensive AIoT System for Organic Crop Automation and Plant Health Monitoring
Sharan Krishnan, Abinesh Tamizhselvan, Sathish Jayabalan, Sanjanaa Maturi, Tricia Ezhilarasi J and Vishnuvarthan Rajagopal (Amrita Vishwa Vidyapeetham, India)
Vishnu S (Amrita Vishwa Vidyapeetham, Coimbatore, India)

1571073276 (T5): L-Cysteine Modified Silver Nanoparticles: Mechanistic Insights for Trace Cadmium Detection in Water
Ralandinliu Kahmei (National Institute of Technology, India)
Kevizali Neikha, Mala Pamei and Amrit Puzari (National Institute of Technology Nagaland, India)

1571069698 (T6): LiDAR-IMU Fusion for Distortionless Point Cloud Generation in Hybrid Solid-State LiDAR for 3D Mapping
Abhishek Thakur (Indian Institute of Technology Hyderabad, India)
Rajalakshmi P (IIT Hyderabad, India)

1571069551 (T7): PI Vs PID Temperature Control of an Uncalibrated Portable Heater for Sensors
Chinmayee Arpita Pati, Goutam Sutradhar, Anshu Sarje
IIT Hyderabad - India, International Institute of Information Technology Hyderabad - India

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1571069709 (T7): Design and Optimization of Hollow Microneedles Patch Based Wearable Transdermal Drug Delivery System
Prasoon Kumar (NIT Rourkela, India);
Chinmay Mallik (National Institute of Technology, Rourkela, India)

1571069822 (T7): Low-Cost Electrochemical Sensor for Detection of Iron in Water
Ashutosh Sahay and Goutam Sutradhar (IIIT Hyderabad, India)
Anshu Sarje (IIIT Hyderabad, India)

1571073656 (T7): Influence of Feed-Line Integration on Flexible Sensing Antenna Performance
Sanjeev Patel and Mitradip Bhattacharjee
(Indian Institute of Science Education and Research Bhopal, India)

1571073361 (T8): Elemantra: An End-To-End Framework Empowered With Edge AI to Tackle Human-Elephant Conflict
Nuwan Sriyantha Bandara (Singapore Management University & National University of Singapore, Singapore);
Dilshan Bandara (University of Moratuwa, Sri Lanka)

1571069608 (T9): Characterization Method of Photodiodes for Sensing Applications
Goutam Sutradhar and Ashutosh Sahay (International Institute of Information Technology, Hyderabad, India)
Anshu Sarje (IIIT Hyderabad, India)

1571069662 (T9): Efficient Reverse Navigation Technique for Autonomous Vehicles: Leveraging Front-Side Single Lidar for Turning Maneuvers
Bhavani Badugu (IIT, India); Ramakrishna Vempadapu (Research Assistant, India)
Rajalakshmi P (IIT Hyderabad, India)

1571069730 (T9): A Calibration Method for Improved Linearity and Range of Non-Contact Position Sensors
Aakash Dewangan (IIT Bombay, India)
V. Kartik (Indian Institute of Technology Bombay, India)

1571069795 (T9): Microfluidic Mixing Using an Oscillating Air-Liquid Interface
Vinaya Vinaya and Nishant Kumar Sharma (Indian Institute of Science, India)
Sen Prosenjit (IISc, India)

1571073165 (T9): Vibration Sensors Based on Femtosecond Laser Direct-Write Microcantilever Beam
Yunfeng Liao (Beijing Information Science and Technology University, China)

1571073466 (T9): Performance Dependency of Piezoelectric Sensor on Robotic Finger Tapping Frequency
Ariba Siddiqui (IISER Bhopal, India)
Mitradip Bhattacharjee (Indian Institute of Science Education and Research Bhopal, India)

1571073426 (T10): Evaluating the Suitability of IBM Quantum Hardware for Practical Quantum Search
Jyothikrishna Sajja (IIITDM Kancheepuram, India)
Vikrant Abhishek and Shivani Mehta (IIITDM Kancheepuram, India)
Sumanth Arige (Sri Sivasubramaniya Nadar College of Engineering, India)
Vidya Praveen Bhallamudi (IIT Madras, India)
Tejendra Dixit (IIITDM Kancheepuram, India)

1571068801 (T10): Analysis of Magnetic Field Sensing Capability of Diamond Embedded With Nitrogen Vacancy Center

Ambika Bhatta(Indiana University Bloomington)

1571069810 (T11): Layer by Layer: Strengthening Deep Neural Networks Against Weight Perturbations

Abhishek Yadav (IIT-JODHPUR, India & EE Dept, India)
Binod Kumar (IIT Jodhpur, India)

1571073332 (T11): Turning Novel V2O5 Nanostructures Into High-Performance Supercapacitive Energy Storage Material

Anshuman Panda, Rohit Ranganathan Gaddam and Santanu Talukder (IISER Bhopal, India)

1571073672 (T11): Flexible Sensors for Acoustic Applications Based on MWCNTs Decorated With ZnO Nanoparticles

Suresh Nuthalapati, Aniket Chakraborthy and Mehmet Sait Özer (Technische Universität Dresden, Germany)
M. Ercan Altinsoy (Dresden University of Technology, Germany)
Anindya Nag (Technische Universität Dresden, Germany)

1571082231 (T14): Assessment of Elderly In-Home Fall Risk Detection Using Multiple Radar Positioning and Machine Learning Classifiers

Swarubini PJ (IIT Hyderabad, India)
Karthick PA (National Institute of Technology Trichirappalli, India)
Tomohiko Igasaki (Kumamoto University, Japan)
Nagarajan Ganapathy (IIT Hyderabad, India)

1571085296 (T14): An Ensemble Learning Approach to Covariance Intersection Fusion

Vellalacheruvu Venkata Siva Sai Anil Kumar (Manipal Academy of Higher Education, India)
Vishnu Srinivasa Murthy Yarlagadda (Manipal Institute of Technology Bengaluru, India)
Manoj Kumar V (Nitte Meenakshi Institute of Technology (NMIT), India)
Sravani Vemulapalli (Manipal, Norway)
Pardhasaradhi Bethi (University of Agder (UiA), Norway)
Linga Reddy Cenkeramaddi, Sr (University of Agder, Norway)

1571084897 (T15): Enhancing Underwater Human-Robot Communication: Real-Time Hand Gesture Recognition Using YOLO Models

Aditya Sharma and Sandhya Mourya (National Institute of Technology, India)
Jasjappan Singh and Pramod Maurya (CSIR NIO, India)

1571082773 (T16): Assessment of Driver Inattention State Using Multimodal Attentive Feature Fusion

Kaveti Pavan (Indian Institute of Technology, Hyderabad, India)
Ankit Singh (Indian Institute of Technology Hyderabad, India)
Digvijay Pawar (Indian Institute of Technology, Hyderabad, India)
Nagarajan Ganapathy (IIT Hyderabad, India)

1571085283 (T16): A Lightweight CNN for Real-Time Domestic Animal Sound Classification on IoT Devices Using Time-Frequency Imaging.

Ram Ellore (UiA, Norway)
Rakesh Reddy Yakkati (Birla Institute of Technology, India)
Pardhasaradhi Bethi (University of Agder (UiA), Norway)
Jing Zhou and Linga Reddy Cenkeramaddi, Sr (University of Agder, Norway)

1571085285 (T16): Lightweight CNN for Real-Time Nature Sound Classification on Edge Devices
Neha Miryala (Massachusetts, USA)
Rakesh Reddy Yakkati (Birla Institute of Technology, India)
Sarada Puranapanda (Manipal University, India)
Sreenivasa Reddy Yeduri and Linga Reddy Cenkeramaddi, Sr (University of Agder, Norway)

1571085300 (T16): Agricultural Gas Classification Using Gas Sensor Arrays and PCA-Based Dimensionality Reduction
Kattepogu Navya (Rajendra Prasad Central Agricultural University, India)
Vellalacheruvu Venkata Siva Sai Anil Kumar (Manipal Academy of Higher Education, India)
Pardhasaradhi Bethi (University of Agder (UiA), Norway)
Linga Reddy Cenkeramaddi, Sr (University of Agder, Norway)

1571084395 (T16): Retina Vessel Segmentation Using Lightweight U-Net Like Model Optimized for Neuromorphic Crossbar Array
Bakul Gohel
Dhirubhi-Ambani Institute of Information and Communication Technology, India

1571081423 (T18): Fabrication of Room Temperature Acetone Sensor Using Ga-Doped ZnO Thin Film
Bodhishatwa Roy and Subrata Mandal (University of Calcutta, India)
Jay Sharma and Satyaban Bhunia (Saha Institute of Nuclear Physics, India)
Anupam Karmakar and Sanatan Chattopadhyay (University of Calcutta, India)

1571088406 (T18): Data-Driven Multi-Frequency Fusion and Search Space Reduction Based 2D Beamforming for Localization of Impact Induced Soundwaves
Mayukh Biswas and Amit Swain (TCS Research, India)
Raj Rakshit (Tata Consultancy Services, India)
Chirabrata Bhaumik (Tata Consultancy Services & TCS Research, India)

1571094431 (T18): An Atrous Convolution Based DL Model for Classifications of Aberrant Brain Cells Using MRI
Avishek Adhikary
(Indian Institute of Technology Bhilai,India)

1571095229 (T18): An AIoT-Based Real-Time Remote Health Monitoring Device,
Aishik Pal
(Indian Institute of Technology Jodhpur - IITJ, India)

1571101391 (T18): Motor Imagery Classification Using Activation/Deactivation Pattern Created From EEG Signal
Rahash Agarwal and Srirupa Datta (Jadavpur University, India)
Debatri Chatterjee (TCS Research, India)
Sanjoy Kumar Saha (Jadavpur University, India)

08:00 – 08:15
Registration & Help Desk
Room: Outside the Main Auditorium

08:30 – 10:30
Agriculture and Food Technology-I
Room: Auditorium 1
Session Chair 1: Kavya Dashora
Session Chair 2: Vinay Palaparthy

08:30
INVITED TALK:
Kavya Dashora

09:00
1571067081 (T1): Intelligent Grain Storage Management System for Horizontal Silos
Diego Barrettino, Denis Ferreira
Lucerne University of Applied Sciences and Arts (HSLU) – Switzerland, SensDRB Ltd., Switzerland

09:15
1571068177 (T1): Investigating the Potential of PEDOT: PSS/Graphene Based RFID Sensor for Milk Spoilage Detection
Abhinandan Pal, Kanishka Bhunia, Stéphane Bila Hamida Hallil
Indian Institute of Technology Kharagpur - India, XLIM UMR 7252 Université de Limoges/CNRS - France, University of Bordeaux & IMS-Bordeaux Lab, France

09:30
1571069056 (T1): A Microfluidics Based Sucrose Sensing Technique for On-Field Maturity Monitoring of Sugarcane Crop
ShivaKarthik Ekambaram, Vikas Kumar, Swagata Halder, Amruta Ranjan Behera
Plaksha University, India

09:45
1571069125 (T1): Meta-Learning Based Continual Learning Methods for Fine-Grained Fruit Quality Classification
Aayush Mishra, Prathamesh Gadekar, Manasi Patwardhan, Parijat Deshpande
TCS Research – India, Indian Institute of Information Technology, Pune, India

10:00
1571097024 (T18): Development of a Home-Scale Prototype to Detect Preservatives in Milk
Kavya Dashora, Ajay Kumar Yadav, Vivek Kumar, Rajendra Singh Dhaka
Indian Institute of Technology Delhi, India

10:15
📄 *Sensors Letters Paper*
1571101698 (T19): Preparation Design and Implementation of a Portable Microwave Sensor for Characterization of Edible Oils
Shreya Dhar, Parthib Paul, Subha Mandal, Gobinda Sen
Institute of Engineering & Management, Kolkata, West Bengal, Kolkata, India

08:30 – 10:30
Next-Gen Seamless Positioning and Navigation
Room: Seminar Room 1
Session Chair 1: Valerie Renaudin,
Session Chair 2: Joaquín Torres-Sospedra

08:30
INVITED TALK:
Joaquín Torres-Sospedra

09:00
1571074792 (T14): Modular Fingerprinting and Deep Learning: A New Training Approach
Darwin Quezada-Gaibor, Miguel Matey-Sanz, Joaquín Huerta, Joaquín Torres-Sospedra
Universitat Jaume I – Spain, Universitat de València, Spain

09:15
1571077739 (T14): Step Detection Enhanced by Anomaly Filtering
Mohamad Issam Sayyaf, Ni Zhu, Valerie Renaudin, Tobias Feigl
Université Gustave Eiffel – France, Fraunhofer Institute for Integrated Circuits IIS, Germany

09:30
1571069532 (T9): Optimization of GNSS/IMU Positional Accuracy With Kalman Filtering and RTK Corrections for Autonomous Vehicle Applications
Devadas Kuna and Rishav Kumar, D Santhosh Reddy ,Rajalakshmi P
Indian Institute of Technology Hyderabad, India

09:45
1571073469 (T9): Range Analysis for Effective Object Detection Algorithms for Camera in Autonomous Vehicles
Abhilash S, Nitish Kumar, Rajalakshmi P
Indian Institute of Technology, Hyderabad, India

10:00
1571073242 (T11): A PSPNet Approach for Efficient Segmentation of Direct and Alternative Drivable Road Spaces in Autonomous Navigation With BDD 100K
Kayam Saikumar, D Santhosh Reddy, Rajalakshmi P
Indian Institute of Technology Hyderabad, India

08:30 – 10:30
Medical and Digital Healthcare-I
Room: Seminar Room 2
Session Chair 1: Dipankar Badyopadhyay
Session Chair 2: Bakul Gohel

08:30
INVITED TALK:
Dipankar Badyopadhyay

09:00
1571069265 (T3): A Low-Cost Point-Of-Care Biosensor for Interleukin-6 Detection
Greeshma Nechikat, Manjoosha Ratna Yerrapragada, Renu John
Indian Institute of Technology Hyderabad, India

09:15
1571073640 (T3): Multiple Smaller ArUco Markers Based Marker Design for Optical Camera-Based Surgical Navigation System
Bakul Gohel,Harsh Vyas, Birva Oza, Anil Roy
Dhirubhi-Ambani Institute of Information and Communication Technology, India

09:30
1571074246 (T3): IoT-Enabled Portable ECG System Embedded With Power Gating
Partthu Kalleda, Kamlesh Patle, Vinay Palaparthy, Anil Roy
DAIICT, India

09:45
1571086509 (T18): Continuous Freezing of Gait Detection With TinyML on Embedded Systems
Chetanya Munjal, Pedro E.A. Galinari, Jan Peters, Annika M Raatz, Soumyajyoti Maji
University of Galway – Ireland, Universidade Federal do ABC – Brazil, Leibniz Universität Hannover – Germany

10:00
📄 *Sensors Letters Paper*
1571103531 (T19): PPY-fMWCNT Nanocomposite-Based Chemicapacitive Biosensor for Ultrasensitive Detection of TBI-Specific GFAP Biomarker in Human Plasma
Patta Supraja, Rahul Gangwar and Suryasnata Tripathy, Siva Rama Krishna Vanjari, Shiv Govind Singh
Indian Institute of Technology Hyderabad – India, SRM University AP – India

10:15
📄 *Sensors Letters Paper*
1571103540 (T19): Development of a TLR1/TLR2-Based Chemiresistive Biosensor for Ultra-Sensitive Gram-Positive Bacterial Detection Using Amine-Terminated Carbon Surfaces
Rahul Gangwar, Patta Supraja, Karri Trinadha Rao, Suryasnata Tripathy, Shiv Govind Singh, Siva Rama Krishna Vanjari
Indian Institute of Technology Hyderabad – India, SRM University AP – India

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08:30 – 10:30
IoT, Wearables and Immersive Technologies-I
Room: Seminar Room 3 & 4
Session Chair 1: Sharmistha Bhadra
Session Chair 2: Dhiman Mallick

08:30
INVITED TALK:
Sharmistha Bhadra

09:00
1571069316 (T7): Micro-Grooved Anisotropic Hydrophobic Flexible and Stretchable Strain Sensors
Deven Deepak Birje, Sriharitha Rowthu
IIT Gandhinagar, India

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09:15
1571074090 (T7): Printed Microheater on Textile Thread for Moisture Measurements
Manoj Jose
Silicon Austria Labs GmbH, villach

09:30
1571069775 (T7): Printed Dry Electrodes for Bioimpedance Measurement Using Textile Substrates
Shivam Trivedi, Satyam Srivastava, Siddharth Panda
Indian Institute of Technology Kanpur, India

09:45
1571070505 (T7): Enhanced Temperature Sensing in DNTT-Based Hybrid Dielectric (HfO2/PMMA) OTFT for Biomedical and Wearable Devices
Prasanthi Lingala, Matta Durga Prakash
SRM University-AP, Andhra Pradesh – India, SRMAP University, India

10:15
📄 *Sensors Letters Paper*
1571102657 (T19): Efficient Hand Gesture Recognition Using Artificial Intelligence and IMU Based Wearable Device
Agastasya Dahiya, Dhruv Wadhwa, Rohan Katti, Luigi Occhipinti
Bennett University – India, University of Cambridge - United Kingdom,

10:30 – 11:00   **Tea Break**

11:00 – 11:30   **Opening Ceremony**

11:30 – 12:30   **PLENARY TALK: Soft Electronic and Microfluidic Sensors for the Human Body**   **John Rogers (Northwestern University)**   Room: Auditorium 1   Chair: Rudra Pratap

12:30 – 13:30   **Lunch**

13:30 – 14:15   **KEYNOTE: The Lessons Learned from the Pandemic and the Future Preparedness of India**   **Pragya Yadav (Indian Council of Medical Research, National Institute of Virology, India)**   Room: Auditorium 1   Session Chair: Anil Roy

14:30 – 16:00   **Sensors Interfaces and Sensors Analytics-I**   Room: Auditorium 1   Session Chair 1: Jiro Hirokawa   Session Chair 2: Shrutidhara Sarma

14:30
INVITED TALK:
Jiro Hirokawa

15:00
1571039578 (T9): A Novel Method of Generating Complex Sine Wave in Automative Sensing Application
Venkata Rangarao Kaluri, Atul Negi
University of Hyderabad, India & Hyderabad, India

15:15
1571062339 (T9): Optimized Method for Enhancing the Linearity of Capacitive Pressure Sensor With Circular Diaphragm by Transforming the Fixed Electrode
Gajula Rukshana Bi, Sumit Jindal
Vellore Institute of Technology, India

15:30
1571068113 (T9): Model Selection to Identify Touch Sensation Types
Deepika Gupta and Sachin Sharma, Anuj Nandanwar, Deepak Sachan, Jagadeesh Kadiyam, G Shrikanth Reddy, Narendra Dhar
Indian Institute of Technology Mandi – India, Indian Institute of Technology, Kanpur – India, Robotics, India

15:45
1571069257 (T9): PdSe2 Doped ZnO for Highly Selective Hydrogen Sensing
Sushree Sangita Priyadarsini,
Indian Institute of Science Bangalore, India

16:00
1571073723 (T9): Development of Respiration Monitoring System for Infants Using Ultrasensitive and Stretchable Strain Sensor Patch
Gitansh Verma, Divyanshu Raj and Chiluvuri Praneeth, Sarma, Eugen Koch, Andreas Dietzel
Indian Institute of Technology – India, TU Braunschweig – Germany

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14:30 – 16:00
Quantum Sensors and Emerging
Room: Seminar Room 1
Session Chair 1: Poornendu Chaturvedi
Session Chair 2:

14:30
INVITED TALK:
Poornendu Chaturvedi

15:00
📄 *Sensors Letters Paper*
1571097131 (T19): Unique Key-Based Secured Transmission Protocol for Rolling Shutter Visible Light Communications
Puneet Pandey, Sandeep Joshi
Birla Institute of Technology and Science (BITS) Pilani, India

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15:15

📄 *Sensors Letters Paper*

1571098198 (T19): Glucose Sensor Printed on Algae-Based Substrates for Eco-Conscious Point-of-Care Devices

Emily Bezerra Alexandre, Tutku Beduk, Sabine Lengger, Mani Teja Vijjapu, Sandro Carrara, Juergen Kosel

Silicon Austria Labs GmbH, École Polytechnique Fédérale de Lausanne (EPFL) – Austria, EPFL – Switzerland

15:30

📄 *Sensors Letters Paper*

1571101561 (T19): Explainable XceptionNet-Based Keratoconus Detection Using Infrared Images and Edge Computing

Krushna Devkar, Arunkumar S, Tithi Bhakta, Shrikant R. Bharadwaj, Nithyanandan Kanagaraj, Nagarajan

Indian Institute of Technology Hyderabad – India, LVPEI – India

15:45

📄 *Sensors Letters Paper*

1571105274 (T19): Ppb level ammonia sensing of marigold flower-like NiO nanostructure for freshwater fish freshness

Prashant Kumar Guha

IIT Kharagpur,India

14:30 – 16:00
Environment and Infrastructure Monitoring-I
Room: Seminar Room 2
Session Chair 1: Mitradip Bhattacharjee
Session Chair 2: Niharika Gogoi

14:30
INVITED TALK:
Mitradip Bhattacharjee

15:00
1571069777 (T5): A Fiber Optic Sensor Modified With Cobalt Doped Molybdenum Oxide Based Metal-Organic Framework for Arsenic (V) Detection
Nandini Swaminathan, Swetha Menon, Sourav Dutta, Narayanan Madaboosi, V V Raghavendra Sai
Indian Institute of Technology Madras (IITM), India

15:15

📄 *Sensors Letters Paper*
1571107156 (T19): Room Temperature Operated Fe_2O_3/PANI-based Flexible and Eco-friendly Ammonia Sensor with Sub-ppm Detectability
Rahul Gond, Prajjwal Shukla, Brajesh Rawat
Indian Institute of Technology Ropar, India

15:30

📄 *Sensors Letters Paper*

1571097147 (T19): TiO_2-Decorated MoS_2 Nanocomposite for CO_2 Sensing at Room Temperature
Rahul Gond, Prajjwal Shukla, Brajesh Rawat
Indian Institute of Technology Ropar, India

15:45

📄 *Sensors Letters Paper*

1571100990 (T19): Screen Printable, Sustainable Water-Based Functional Ink From Coal-Derived Reduced Graphene Oxide for Humidity Sensing

L Marini, Dinesh Kumar S, Suman K Jhajharia, Mk Padmanabhan, Roop L Mahajan, Chithra Lekha P
Anna University Chennai – India, Virginia Tech – India, Virginia Tech – Blacksburg, Dr MGR Educational and Research Institute – India

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14:30 – 16:30
Industry 5. 0, Manufacturing and Automation
Room: Seminar Room 3 & 4
Session Chair 1: Sangeeta Kale
Session Chair 2: Parijat Deshpande

14:30
INVITED TALK:
Sangeeta Kale

15:00

1571067270 (T4): Application of Innovative Electric Field Tri-Axial Sensor and Spherical Sources to the Detection of Buried Non-Conductive Objects

Luis Saluden, Matthieu Denoual, Gilles Allegre and Matthieu Roblin (Université Caen Normandie, France); Didier Robbes
University of Caen-Normandie – France, GREYC CNRS Normandy University ENSICAEN – France

15:15

1571073584 (T4): On Selection Criteria of Sensor for Online Non-Contact Vibrometry of Grinding Mills

Mayukh Biswas, Raj Rakshit, Amit Swain, Chirabrata Bhaumik
Tata Consultancy Services & TCS Research, India

15:30

📄 *Sensors Letters Paper*

1571097716 (T19): A Self-Powered Accelerometer Using Circular Hole Piezo Energy Harvester for Acceleration and Vibration Analysis

Priyabrata Biswal, Banibrata Mukherjee, Sougata Kar
National Institute of Technology Rourkela – India, IIT Kharagpur – India

15:45

📄 *Sensors Letters Paper*

1571103315 (T19): Characterization of Fornix Structural Changes in Controls, MCI and AD Using sMR Images and Rotational Invariant Moments

Ahsan Ali, Jack Fredo Agastinose Ronickom, Ramakrishnan Swaminathan
Indian Institute of Technology Madras – India, IIT (BHU) – India

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16:00 – 16:45
POSTER SESSION with Tea/Coffee
Location: Poster Lobby
Session Chair 1: Brendan Oflynn
Session Chair 2: Santanu Talukder
Session Chair 3: Sajeev Ramachandran

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1571073548 (T1): Enhancing Smart Greenhouse Management System Using Hybrid Machine Learning Model
Dr. Tanima Bhowmik
CSE AIML Department,Institute of Engineering and Management,Salt Lake, Kolkata, India

1571074226 (T1): Adaptive Prediction of Pests and Diseases in Tomato With Granular Ambient and Field Sensing
Vidit Mahesh Patil
Tata Consultancy Services Limited, Thane,India

1571069787 (T1): <Design and Development of a Feasibility Prototype for the Non-Invasive Detection of Fat Content in Milk
M B Shripasyanthi, Shri Vidhatri M M, M Sivaramakrishna and Chitrakkumar S
UM-DAE, CEBS – India, International Institute of Information Technology, Hyderabad – India, IGCAR – India

1571069843 (T1): <Non-Faradaic Electrochemical Impedance-Based Quantification of Fusarium Fujikuroi Using a Leaf-Based Biodegradable Sensing Platform
Tejas R Naik, Rhea Patel, Shanaia Tabitha Da Cruz Fernandes, Aditya Anant Morajkar
Indian Institute of Technology Bombay, India & University of Glasgow - United Kingdom, Goa University – India

1571073284 (T1): IoT and Supervised Machine Learning Factored Precision Agriculture: Enhancing Crop Yield Prediction and Recommendations
Surya Thangaraju and Balaji K, Madhav Rao
International Institute of Information Technology Bangalore – India, VIT – India

1571073556 (T1): Fluorescence Spectroscopy of Milk to Detect Edible Oil Adulteration: A Potential Challenge for Dairy Industry
Atindra Kanti Mandal, Barnali Ghatak, Mainak Mondal, Bipan Tudu, Nityananda Das, Rajib Bandyopadhyay, Soumyo
Indian Institute of Technology Bombay - India, Computational Intelligence Lab & Jadavpur University - India, NIDHI EIR Fellow - India, Jadavpur University Kolkata - India, J. K. College Purulia - India

1571068482(T2): Fusion of Thermal and RGB Images for Traffic Object Detection
Anirud Nandakumar, Lelitha Devi Vanajakshi, Chandrashekar Lakshminarayanan
Indian Institute of Technology, Madras, India

1571061241 (T3): <A Gamified System for Remote Non-Invasive Patient Respiratory Monitoring and Pulmonary Rehabilitation
Sriya Vaitheeswaran, Vidya Gopal T V, Ranganadh Kollapureddi, Renu John
Sastra Deemed University - India, Foundation for CfHE - India, Indian Institute of Technology Hyderabad - India

1571068905 (T3): Fabrication of Eco-Friendly 3D Origami-Based Fabric Microfluidics Channels
Lingadharini P, Debashis Maji
VIT Vellore & IIT Kharagpur, India

1571069152 (T3): <Flexible Organic Photodetectors With PEIE Electron Transport Layer for Photoplethysmography (PPG) Under Ambient Light Conditions
Hossein Anabestani, Zeljko Zilic and Sharmistha Bhadra
McGill University, Canada

1571069287 (T3): <Opto-Electronically Derived PPG-Based Non-Invasive Sensor for Multiparameter Detection
T A Amrutha, Binu Nair, Vedashree Sirdeshmukh, Sangeeta Kale
Defence Institute of Advanced Technology, India

1571069567 (T3): <Electrochemical Detection of E. Coli Using Polysaccharide Modified ZnO Nanoparticles
Vedashree Sirdeshmukh, Lokesh Shaarma, Chandrakant Tagad, Anup Kale
MIT ADT University, Pune - India, , SBES college of Science - India

1571070493 (T3): <Design of Sub-20nm Nanosheet FET Based Label Free Biosensor
Ummadisetti Gowthami, Matta Durga Prakash
SRM University-AP, Andhra Pradesh, India

1571071954 (T3): <Geometric Parameter Feature Extraction for Off-Device AI-Based Electronic Nose for Lung Cancer
Oluwadamilola Oshin, Funmilayo Moninuola, Obiseye O Obiyemi, Ademola Adeyeye, Emmanuel Adetiba, Aderemi A. Atayero
Covenant University - Nigeria, Black Pearl Technology - Nigeria, Durban University of Technology - South Africa, Afe Babalola University - Nigeria

1571073286 (T3): Racial Bias in Multimodal Classification of Healthcare Data - Evidence From MIMIC-IV
Suchit Bhai Patel, Pranjali Attarde, Manik Gupta
BITS-Pilani Hyderabad Campus, India

1571073644 (T3): Computational-Efficient Morphology Zone Search in Peripheral Blood Smear for Identification of Atypical Blood Cell Morphologies
S Sree Niranjanaa Bose, Aarthi Sathya Narayanan and Yogeswarr S, Varalakshmi Perumal and Shivani Parayil, Bharathi Kannan Natarajan, Shefali Karve Hemanth, Murali Mohan
(Bosch Global Software Technologies, India)

1571073651 (T3): Investigating Skin Deformation: The Impact of Indenter Diameter and Thickness on Mechanical Properties
Pradeep Shukla, Diplesh Gautam, Venkatesh KP Rao
Sri Balaji University, Pune - India, Birla Institute of Technology and Science, Pilani & BITS Pilani - India

1571074365 (T3): Nonlinear Diffractive Imaging Through Strongly Scattering Media Using Levenberg Marquardt Algorithm
Asim Asrar, Pranab Kumar Dutta
Indian Institute of Technology Kharagpur - India

1571073517 (T4): Revolutionizing Kitchen Gardening: A Comprehensive AIoT System for Organic Crop Automation and Plant Health Monitoring
Sharan Krishnan, Abinesh Tamizhselvan, Sathish Jayabalan, Sanjanaa Maturi, Tricia Ezhilarasi J, Vishnuvarthan Rajagopal, Vishnu S
Amrita Vishwa Vidyapeetham, Coimbatore, India

1571073276 (T5): L-Cysteine Modified Silver Nanoparticles: Mechanistic Insights for Trace Cadmium Detection in Water
Ralandinliu Kahmei, Kevizali Neikha, Mala Pamei and Amrit Puzari
National Institute of Technology Nagaland, India

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1571069698 (T6): LiDAR-IMU Fusion for Distortionless Point Cloud Generation in Hybrid Solid-State LiDAR for 3D Mapping
Abhishek Thakur, Rajalakshmi P
IIT Hyderabad, India

1571069551 (T7): PI Vs PID Temperature Control of an Uncalibrated Portable Heater for Sensors
Chinmayee Arpita Pati, Goutam Sutradhar, Anshu Sarje
IIIT Hyderabad - India, International Institute of Information Technology Hyderabad - India

1571069709 (T7): Design and Optimization of Hollow Microneedles Patch Based Wearable Transdermal Drug Delivery System
Prasoon Kumar, Chinmay Mallik
National Institute of Technology, Rourkela, India

1571069822 (T7): Low-Cost Electrochemical Sensor for Detection of Iron in Water
Ashutosh Sahay, Goutam Sutradhar, Anshu Sarje
IIIT Hyderabad, India

1571073656 (T7): Influence of Feed-Line Integration on Flexible Sensing Antenna Performance
Sanjeev Patel, Mitradip Bhattacharjee
Indian Institute of Science Education and Research Bhopal, India

1571073361 (T8): Elemantra: An End-To-End Framework Empowered With Edge AI to Tackle Human-Elephant Conflict
Nuwan Sriyantha Bandara, Dilshan Bandara
Singapore Management University & National University of Singapore, University of Moratuwa - Sri Lanka

1571069608 (T9): Characterization Method of Photodiodes for Sensing Applications
Goutam Sutradhar and Ashutosh Sahay, Anshu Sarje
International Institute of Information Technology Hyderabad - India, IIIT Hyderabad - India

1571069662 (T9): Efficient Reverse Navigation Technique for Autonomous Vehicles: Leveraging Front-Side Single Lidar for Turning Maneuvers
Bhavani Badugu, Ramakrishna Vempadapu, Rajalakshmi P
IIT Hyderabad, India

1571069730 (T9): A Calibration Method for Improved Linearity and Range of Non-Contact Position Sensors
Aakash Dewangan, V. Kartik
Indian Institute of Technology Bombay, India

1571069795 (T9): Microfluidic Mixing Using an Oscillating Air-Liquid Interface
Vinaya Vinaya, Nishant Kumar Sharma, Sen Prosenjit
IISc, India

1571073165 (T9): Vibration Sensors Based on Femtosecond Laser Direct-Write Microcantilever Beam
Yunfeng Liao
Beijing Information Science and Technology University, China

1571073466 (T9): Performance Dependency of Piezoelectric Sensor on Robotic Finger Tapping Frequency
Ariba Siddiqui, Mitradip Bhattacharjee
Indian Institute of Science Education and Research Bhopal, India

Technical Program:
January 20, 2025

IEEE
APSCON 2025
IEEE Applied Sensing Conference
IIT Hyderabad, India // 20–22 January 2025

1571073426 (T10): Evaluating the Suitability of IBM Quantum Hardware for Practical Quantum Search
Jyothikrishna Sajja, Vikrant Abhishek, Shivani Mehta, Sumanth Arige, Vidya Praveen Bhallamudi, Tejendra Dixit
Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram - India, IIT Madras - India, Sri Sivasubramaniya Nadar College of Engineering - India

1571068801 (T10): Analysis of Magnetic Field Sensing Capability of Diamond Embedded With Nitrogen Vacancy Center
Ambika Bhatta(Indiana University Bloomington)

1571069810 (T11): Layer by Layer: Strengthening Deep Neural Networks Against Weight Perturbations
Abhishek Yadav. Binod Kumar
IIT Jodhpur, India

1571073332 (T11): Turning Novel V2O5 Nanostructures Into High-Performance Supercapacitive Energy Storage Material
Anshuman Panda, Rohit Ranganathan Gaddam, Santanu Talukder
IISER Bhopal, India

1571073672 (T11): Flexible Sensors for Acoustic Applications Based on MWCNTs Decorated With ZnO Nanoparticles
Suresh Nuthalapati, Aniket Chakraborthy, Mehmet Sait Özer, M. Ercan Altinsoy, Anindya Nag
Dresden University of Technology, Germany

1571082231 (T14): Assessment of Elderly In-Home Fall Risk Detection Using Multiple Radar Positioning and Machine Learning Classifiers
Swarubini PJ, Karthick PA, Tomohiko Igasaki, Nagarajan Ganapathy
IIT Hyderabad - India, National Institute of Technology Trichirappalli – India, Kumamoto University - Japan

1571085296 (T14): An Ensemble Learning Approach to Covariance Intersection Fusion
Vellalacheruvu Venkata Siva Sai Anil Kumar, Vishnu Srinivasa Murthy Yarlagadda, Manoj Kumar V, Sravani Vemulapalli, Pardhasaradhi Bethi, Linga Reddy Cenkeramaddi
Manipal Academy of Higher Education – India, Nitte Meenakshi Institute of Technology – India, Manipal – Norway, University of Agder, Norway

1571084897 (T15): Enhancing Underwater Human-Robot Communication: Real-Time Hand Gesture Recognition Using YOLO Models
Aditya Sharma and Sandhya Mourya, Jasjappan Singh and Pramod Maurya
National Institute of Technology – India, CSIR NIO - India

1571082773 (T16): Assessment of Driver Inattention State Using Multimodal Attentive Feature Fusion
Kaveti Pavan, Ankit Singh, Digvijay Pawar, Nagarajan Ganapathy
Indian Institute of Technology, Hyderabad, India

1571085283 (T16): A Lightweight CNN for Real-Time Domestic Animal Sound Classification on IoT Devices Using Time-Frequency Imaging
Ram Ellore, Rakesh Reddy Yakkati, Pardhasaradhi Bethi, Jing Zhou, Linga Reddy Cenkeramaddi,
University of Agder - Norway, Birla Institute of Technology - India

1571085285 (T16): Lightweight CNN for Real-Time Nature Sound Classification on Edge Devices
Neha Miryala, Rakesh Reddy Yakkati, Sarada Puranapanda, Sreenivasa Reddy Yeduri and Linga Reddy Cenkeramaddi, Sr
Massachusetts - USA, Birla Institute of Technology - India, Manipal University - India, University of Agder – Norway

1571085300 (T16): Agricultural Gas Classification Using Gas Sensor Arrays and PCA-Based Dimensionality Reduction
Kattepogu Navya, Vellalacheruvu Venkata Siva Sai Anil Kumar, Pardhasaradhi Bethi, Linga Reddy Cenkeramaddi,
Rajendra Prasad Central Agricultural University - India, Manipal Academy of Higher Education - India, University of Agder (UiA) – Norway

1571084395 (T16): Retina Vessel Segmentation Using Lightweight U-Net Like Model Optimized for Neuromorphic Crossbar Array
Bakul Gohel
Dhirubhi-Ambani Institute of Information and Communication Technology, India

1571081423 (T18): Fabrication of Room Temperature Acetone Sensor Using Ga-Doped ZnO Thin Film
Bodhishatwa Roy, Subrata Mandal, Jay Sharma, Satyaban Bhunia, Anupam Karmakar, Sanatan Chattopadhyay
University of Calcutta - India, Saha Institute of Nuclear Physics – India

1571088406 (T18): Data-Driven Multi-Frequency Fusion and Search Space Reduction Based 2D Beamforming for Localization of Impact Induced Soundwaves
Mayukh Biswas and Amit Swain, Raj Rakshit, Chirabrata Bhaumik
Tata Consultancy Services, India

1571094431 (T18): An Atrous Convolution Based DL Model for Classifications of Aberrant Brain Cells Using MRI
Avishek Adhikary
Indian Institute of Technology Bhilai,India

1571095229 (T18): An AIoT-Based Real-Time Remote Health Monitoring Device
Aishik Pal
Indian Institute of Technology Jodhpur – IITJ, India

1571101391 (T18): Motor Imagery Classification Using Activation/Deactivation Pattern Created From EEG Signal
Rahash Agarwal, Srirupa Datta, Debatri Chatterjee, Sanjoy Kumar Saha
Jadavpur University - India, TCS Research – India

1571085134 (T5): Measuring Air Quality Index Using Self Made Multi-Purpose Drone
B Rajaraman, Abhishek Balvant Jani, Mith Seth, Sanjay Srivastava, Anil Roy
Deloitte – India, Valeo – India, Marwadi Education – India, DAIICT – India

16:45 – 18:00
Agriculture and Food Technology-II
Room: Auditorium 1
Session Chair 1: Alan O'Riordan
Session Chair 2: Amruta Ranjan Behera

16:45
INVITED TALK:
Alan O'Riordan

Technical Program:
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IEEE Applied Sensing Conference
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17:15
1571073728 (T1): Stover Nitrogen Estimation in Groundnut Using Hyperspectral UAV Imagery and Machine Learning
Adduru U G Sankararao, Sai Kiran K and Rajalakshmi P, Sunita Choudhary
Indian Institute of Technology Hyderabad, India

17:30
1571070920 (T1): Scalable Sensor Technology for Effective Moisture Management and Agricultural Food Security
Romano Neyra
FEU Institute of Technology, Philippines

17:45
1571062021 (T1): Digital Passport for Fresh Food Traceability
Mudra Kapoor
TCS,India

16:45 – 18:00
Surface, Air, and Water Transportation
Room: Seminar Room 1
Session Chair 1: Rolland Vida
Session Chair 2: Thilo Sauter

16:45
INVITED TALK:
Rolland Vida

17:15
1571069790 (T9): Towards Robust Perception: A Framework for Combining Point Clouds From Multiple LiDARs
Rakshith Ram C.A, Abhishek Thakur, Rajalakshmi P
Indian Institute of Technology Hyderabad, India

17:30
1571073476 (T11): Digital Interface for Short-Span Resistive Sensors Using SAR Technology
Nimesh Kr Baranwal, Chandrika Sreekantan Anoop
Indian Institute of Space Science and Technology, India

17:45
1571084904 (T15): Coral Reef Detection Using Deep Learning With Attenuation and Backscatter
Jasjappan Singh, Samardeep Bhasin, Pramod Maurya and Gajanan Navelkar
CSIR NIO – India, Manipal University Jaipur – India

16:45 – 18:00
Environment and Infrastructure Monitoring-II
Room: Seminar Room 2
Session Chair 1: Parikshit Sahatiya
Session Chair 2: Santanu Talukder

16:45

📄 *Sensors Letters Paper*

1571106018 (T19): A System Level Demonstration of Low Frequency Magnetoelectric Power Transfer System

Dibyajyoti Mukherjee
Indian Institute of Technology Delhi,India

17:00

📄 *Sensors Letters Paper*

1571105103 (T19): Rapid and Sensitive Electrochemical Detection of Escherichia Coli in Water Using Cr-Au IDE-Porous Silicon Sensor

Vandana Kumari Chalka, Kamaljit Rangra, Saakshi Dhanekar
Indian Institute of Technology Jodhpur, India

17:15

📄 *Sensors Letters Paper*

1571103539 (T19): Understanding Immunosensing Phenomenon of Micro IDEs-Based Extended Gate Field-Effect Transistor Supported by EIS Study

Rishikesh Datar and Shreyas Deshpande, Gautam Bacher
BITS Pilani K K Birla Goa Campus, India

17:30

📚 *Invited Journal Author*

1571096109 (T17)): Regression Based EGCG Detection in Green Tea Employing MIP Electrodes

Angiras Modak, Debangana Das , Trisita Nandy Chatterjee, Bipan Tudu, Runu Banerjee Roy
Jadavpur University, Kolkata, India

17:45

📄 *Sensors Letters Paper*

1571105140 (T19): Employing Non-Destructive Approach of Spectral Imaging to Detect Artificially Degreened Lemon

Anish Prabhu
Goa University, India

16:45 – 18:00
AI for Sensing-I
Room: Seminar Room 3 & 4
Session Chair 1: Soumyo Mukherji
Session Chair 2: Prasanta Guha

16:45
INVITED TALK:
Soumyo Mukherji

17:15
1571084781 (T16): Machine Learning-Assisted Nanosensing of Ketone Bodies in Dairy Cows
Shannon Chick, Pranjal Ranjan, Matin Ataei Kachouei, Katharine Knowlton, Sook Shin, Azahar Ali
Virginia Tech, USA

17:30

1571085763 (T16): Lightweight 2D CNN Fusion for Human Activity Recognition Using Multi-Transceiver CSI Data on Edge Devices

Sacharitha Sirisilla, Pardhasaradhi Bethi, Jing Zhou, Ajit Jha, Linga Reddy Cenkeramaddi,

University of Agder (UiA), Norway

17:45

1571085087 (T16): Feasibility Study of Blood Glucose Level Prediction Using Breath Metabolites as Biomarkers

Paramita Kar Choudhury

Tata Consultancy Services Limited, Kolkata, India

19:00 – 21:00

Appreciation Dinner (Sponsored by IEEE Sensors Council)

Location: ITC Kohenur

*Transportation will be provided

8:00 – 8:15
Registration & Help Desk
Room: Outside the Main Auditorium

8:30 – 10:00
INDUSTRY PANEL: Remote Sensing
Room: Auditorium 1
Panelists: Prakash Chauhan, Director, National Remote Sensing Centre,
Dinesh Singh, TCS Digital Food Initiative (DFI),
Adithya K, Chief Product Officer, SkyServe, Biplab Banerjee, IIT Bombay,
Nikhil Rajput, CEO and Co-founder NxtCube
Moderator: Shailesh Deshpande, TCS, Pune

8:30 – 10:00
INDUSTRY PANEL: Sensors Standards Opportunities
Room: Seminar Room 2
Anchor: Sayan Kanungo
Panelists: Gopalakrishna Kuppa (Invited Talk), Venkatesh, Sanket Goel, Jagannath Nayak, Ravitej Tanneru

10:00 – 10:30
Tea Break

10:30 – 11:30
PLENARY TALK: Aude D. Billard (EPFL, Switzerland) "Robotics and Machine Learning"
Auditorium 1
Session Chair: Ravinder Dahiya

11:30 – 12:30
WiSe BIG IDEA PITCH
Room: Auditorium 1
Session Chair 1: Sangeeta Sinha
Session Chair 2: Abhishek Appaji

11:30 – 12:30
PANEL DISCUSSION: Sensors Startup Summit
Room: Seminar Room 2
Moderator: Sachin Arya
Panelists: Praveen Roy, Kausthub K, Pranav K, T S Suneel

12:30 – 13:30
Lunch

13:30 – 14:15
Keynote Talk: UPI (Unified Payments Interface): The Untold Story
Gaurav Raina (IIT Madras)
Room: Auditorium 1
Session Chair: Thilo Sauter

14:15 – 15:00
MYOSA Contest, STARTUP PAVILION & POSTER SESSION with Tea/Coffee
Room: Poster Area
Session Chairs 1: Mitradip Bhattacharjee
Session Chair 2: Abhi Ratnman
Contestant: 1571202514

14:15 – 15:00
Live Demo
Room: Exhibition Area
Session Chairs 1: RN Ponnalagu
Session Chair 2: Rajul Patkar

1571202502 (T12): Plantar Pressure Analysis using Podiascanner mat
Anis Fatema,
International Institute of Information Technology Hyderabad

1571202503 (T12): Live demonstration: FPGA based ultrasonic guided wave structural health monitoring system
Sheetal Patil, Prof. Siddharth Tallur, Prof. Sauvik Banerjee,
IIT Bombay

1571202501 (T12): Novel Cable-Driven Robotic System for Inspection of Walls and Vertical Surfaces
Darshan Sinnarkar, Prof. Siddharth Tallur, Ankur Agarwal,
IIT Bombay

1571202504 (T12): Energy and power metering unit for analyzing power quality
Souhardhya Paul, Siddharth Tallur,
IIT Bombay

1571202505 (T12): Wastewater surveillance with dipstick RNA extraction & electrochemical sensors
Shruti Ahuja, Avani Kulkarni, Dr. Siddharth Tallur, Dr. Kiran Kondabagil
CRNTS department, IIT Bombay, India

1571202506 (T12): ASHA – Multimodal Communication enabled Distress Alert System
Priteem Behera, Ashwini Gajarushi, Chalcy Nadar,
TIH foundation for IoT and IoE

1571202507 (T12): Smart Gloves as Human Mimicking Multimodal Sensor
Nongthombam Joychandra Singh, Chandra Sekhar Reddy Kolli, Parikshit Sahatiya, BITS Pilani Hyderabad Campus
Nilesh Goel, BITS Pilani Dubai Campus

1571202508 (T12): SparshaMat - A Smart Mattress for Continuous Health Monitoring of the Elderly
Chandra Sekhar Reddy Kolli, Darapureddy Varun, Chintalapati Yadagiri Venkata Raghav, Parikshit Sahatiya,
Department of Electrical and Electronics Engineering, BITS Pilani Hyderabad Campus

1571202511 (T12): A smart mobile app for banana ripe stage detection
Asmita Bose, NIT Raipur
Dibkar Roy, Avishek Adhikary, IIT Bhilai

1571202515 (T12): Microscaled Electrochemiluminescence Biosensor Platform for Sample To Answer
Abhishek Kumar, Shashwat Goel
MEMS, Microfluidics and Nanoelectronics Lab, BITS Pilani, Hyderabad Campus

1571202516 (T12): Rapid, Multiplexed, Point-of-Care Device for Simultaneous Detection of Multiple Pathogen and Antimicrobial Resistance
Sonal Fande, P Ramya Priya
MEMS, Microfluidic and Nanoelectronic Lab, Department of Pharmacy and EEE, BITS Pilani, Hyderabad Campus

1571202517 (T12): All In Optical Detection Methods for Sample to Answer Detection of Various Bio Analytes
Abhishek Kumar, Pavar Sai Kumar, K S Deepak, Shashwat Goel
1MEMS, Microfluidics and Nanoelectronics (MMNE) Lab, BITS Pilani, Hyderabad Campus

1571202518 (T12): Ultrafast Sensors and Microfluidics Driven Nanotechnology
Dr. Pavar Sai Kumar, Reshma PA, Badar Ali, Palavi Soumya Sree
BITS Pilani, Hyderabad Campus

1571202519 (T12): Portable Electrolyte Detection Device for Point-of-Care Testing
Sanjeet Kumar, Ritesh Kumar Singh, Parvathy Nair, Suhaib Imtiyaz, Sai Kishore Jujjuvarapu, Khairunnisa Amreen
BITS Pilani, Hyderabad Campus

571202520-M (T12): Smart Herd: Revolutionizing Livestock Monitoring with MYOSA
Siddhesh Sakle, Nirmalya Sinha, Vivek Yadav, Sarthak Sanay,
Rashtriya Raksha University

1571202521-M (T12): Detection of optimal environmental conditions for storage in food industry
Annesha Dey, Manprita Sarma, Satyam Das, Tamaghna Kumar Bora
National Institute of Technology, Silchar

1571202522-M (T12): Tech Innovators: Revolutionizing Communication for the Hearing Impaired and Non-Verbal
Vishwa,
DAIICT

1571202523-M (T12): Smart Care Alert System
Rudra Bhatt, Hari Sharma,
DAIICT

1571202524-M (T12): Epilepsy detection
Bhavy Ratnman, Mahak Khushiramani,
IIT ROORKEE

14:15 – 15:00
Student Research Forum
Room: Poster Area
Session Chair 1: Chirasree RoyChaudhuri
Session Chair 2: Parikshit Sahatiya

1571076107 (T13): Fractional Order Colpitts Oscillators for Impedimetric Analysis of Bio and Chemical Sensors
Agniv Tapadar
Indian Institute of Technology Bhilai, India

1571088175 (T13): A Novel Approach to Detect Human Dental Caries Using Hyperspectral Imaging
Koteswararao Mallaparapu, Sunitha K A, Shrivardhini Indla
SRM University, AP, India

1571088200 (T13): Tremor Differentiation Using Multi-IMU Sensors for Diagnosis of Neurodegenerative Disorders
Chandra Reddy Gadhe, Sunitha K A, Akurathi Trilochan Kumar
SRM University, AP, India

1571089061 (T13): Development of Microsystem Platforms Towards Cancer Diagnostics and Therapeutics
Sri Harsha Paladugu
Indian Institute of Science, Bangalore, India

1571089567 (T13): MEMS Surface Acoustic Wave Hydrogen Sensor
Suganya A, Sujatha L, Girija K.G.
Rajalakshmi Engineering College, Chennai, India

1571090341 (T13): A Low-Cost 3D Printed Colorimeter With Multicolor LED for Wide Range of Applications
Gireesh Kumar J, Vinay Patel, Rohit Srivastava
IIT Bombay, India; IIT Kharagpur, India

1571090506 (T13): Machine Learning Augmented Graphene Electronic Nanosensor Array for Healthcare and Environmental Applications
Piyali Mukherjee, Sayanta Sen, Abhijit Das, Usha Rani Dash and Chirasree RoyChaudhuri
IIEST, Shibpur, India

15:00 – 16:30
CAREER TALK (a Young Professionals Event)
Topic: Applying a Project Management lens to your job search
Room: Auditorium 1
Speaker: Pallavi Eswara, Boston University, USA
Session Chair: Sangeeta Singh

15:00 – 17:00
Sensors Startup Challenge
Room: Seminar Room 2
Session Chair 1: Saakshi Dhanekar
Session Chair 2: Sachin Arya

15:00 – 17:00
DataThon
Room: Seminar Room 3&4
Session Chair 1: Anjali Diwan
Session Chair 2: Mousmi Chaurasia

16:30 – 18:15
PANEL DISCUSSION (Women in Sensors Event)
Room: Seminar Room 2
Topic: Overcoming the Imposter Syndrome: Empowering Women in STEM
Panelists: Aude Billard, Mayuri Duggirala, Pallavi Eswara, Rajul Patkar, Anusmita Das, Saakshi Dhanekar
Session Chair: Anwesha Khasnobish, Paola Saccomandi

18:30 – 19:30
Cultural Program

19:30 – 22:00
Gala Dinner

20:00 - 20:30
Award Ceremony

08:00 – 08:15
Registration & Help Desk
Room: Outside the Main Auditorium

08:30 – 10:00
Agriculture and Food Technology-III
Room: Auditorium 1
Session Chair 1: Dinesh Singh
Session Chair 2: Shailesh Deshpande

08:30
INVITED TALK:
Dinesh Singh

09:00
1571069785 (T1): Stover Nitrogen Estimation in Groundnut Using Hyperspectral UAV Imagery and Machine Learning
Adduru U G Sankararao, Sai Kiran K and Rajalakshmi P, Sunita Choudhary
Indian Institute of Technology Hyderabad, India

09:15
1571073550 (T1): Performance Analysis of Soil Sensors: Accuracy, Variability, and Repeatability
Puja Banerjee, Priteem Ranjan Behera and Swapnali Bansode, Ashwini Gajarushi and Leena Vachhani, Maryam Shojaei Baghini, Arunachalam Thangasamy
IIT Bombay

09:30
1571078330 (T1): Oriented Antibody Immobilization Vs Random Covalent Binding: Improving Reproducibility for Label-Free Electrochemical Immunosensing of Multi-Allergens on Silicon Chips
Somayyeh Bozorgzadeh, Vuslat Juska, Alan O'Riordan
Tyndall National Institute Ireland

09:45
1571076434 (T18): Early Detection of Phytopathogen: An Impedance Spectroscopy-Based DNA Biosensor for Pre-Symptomatic Identification of Ralstonia Solanacearum in Solanum Melongena
Rhea Patel
Goa University, India

08:30 – 10:00
Environment and Infrastructure Monitoring-III
Room: Seminar Room 1
Session Chair 1: Siddharth Tallur
Session Chair 2: Ruchi Gupta

08:30
INVITED TALK:
Siddharth Tallur

09:00
1571065969 (T5): pH Measurements Using Leaky Waveguides
Victoria Wensley, Nicholas J Goddard, Ruchi Gupta
University of Birmingham, United Kingdom

09:15
1571068658 (T5): Biohybrid Sensors for Underwater Monitoring
Niharika Gogoi, Nikolaus Helmer, Chao Wu, Ronald Thenius, Alexander J Casson, Thomas Schmickl, Farshad Arvin
Durham University, UK; University of Graz, Austria; The University of Manchester, UK; Karl-Franzens University Graz, Austria

09:30
📚 *Invited Journal Author*
1571095637 (T17): Functionalized Silver Nano Particle Coated e-FBG Sensor for Specific and Rapid Detection of Chromium in Drinking Water
Debojyoti Mondal, Vajresh Kuman N, Kavitha B S, Sundarrajan Asokan
IISc, India, University of Southampton

09:45
1571075558 (T18): Biodegradable Substrate Based Printed Microwave Resonator for Liquid Sensing
S M Ishraqul Huq, Gaozhi (George) Xiao, Sharmistha Bhadra
McGill University, National Research Council Canada, McGill University

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08:30 – 10:00
Medical and Digital Healthcare-II
Room: Seminar Room 2
Session Chair 1: Satyavrata Samavedi
Session Chair 2: Saptarshi Majumder

08:30
INVITED TALK:
Satyavrata Samavedi

09:00
1571073500 (T3): Utilizing Inverted Residual Blocks in Deep Learning Models for ALL Classification
Fitsum Getachew Tola, Kokou Elvis Khorem Blitti, Anjali Diwan, Reshma Sunil, Tete Winner Benissan-Adodjissi
Marwadi University, India

09:15
1571073639 (T3): Development of a Pulse-Mode Photobiomodulation for Enhancement of Cerebral Oxygenation Level
Biswajit Das, Shubhajit Roy Chowdhury
IIT MANDI, India

09:30
📄 *Sensors Letters Paper*
1571098089 (T19): Electrochemical Understanding of the Difference Between Spherocytes Suspension From Normal Discocytes for Hemolytic Anemia Detection
Aindrila Roy and Debopam Bhattacharya, Payel Biswas, Subhadip Chakraborty, Rajen Haldar, Sanatan Chattopadhyay
University of Calcutta, Awadh Dental College And Hospital, IIEST Shibpur

09:45
1571078307 (T18): Detection of Alzheimer's Disease Using Extreme Band Powers in EEG Data
Subrata Sarkar and Anurag Chakraborty, Aniruddha Sinha, Sanjoy Kumar Saha
Jadavpur University, TCS

08:30 – 10:00
IoT, Wearables and Immersive Technologies-II
Room: Seminar Room 3&4
Session Chair 1: Mohan Kumar
Session Chair 2: Siddhartha Panda

08:30
INVITED TALK:
Mohan Kumar

09:00
1571073897 (T7): Graphene-AuNP Electrodes for Wearable Gel-Free EEG and Health Monitoring in Wearable Glasses
Tushar Shirke, Rominkumar Vaghasiya, Manali Mishra, Deepjyoti Kalita, Hrishita Sharma, Mirza Khalid Baig
National Institute of Technology, Rourkela, India

09:15
1571074293 (T7): Wireless, Reconfigurable Electrochemical Measurement Platform for Wearable Applications
Brendan O'Flynn, Liudmila Khokhlova
Tyndall National Institude, Ireland

09:30
1571085138 (T7): Unveiling Optimized Parameters for Classifying Right and Left Nostril Breathing Patterns With 1D-CNN Approach
Purnima BR, Natarajan Sriraam and Kiran D, Nithin M Kannal
Ramaiah Institute of Technology, Dayanand Sagar College of Engineering

09:45
1571073646 (T7): SocialLens: Unveiling Loneliness Levels From Wearable and Smartphone Data
Tarannum Ara, Bivas Mitra
IIT Kharagpur

10:00 – 10:30
Tea Break

10:30 – 11:15
PLENARY TALK: Human Computer Interaction
Stephen Brewster (University of Glasgow, Scotland)
Room: Auditorium 1
Chair: Enakshi Bhattacharya

11:30 – 12:30
AI in Sensing-II
Room: Auditorium 1
Session Chair 1: Rolland Vida
Session Chair 2: Amit Kumar

11:30

📄 *Sensors Letters Paper*

1571098654 (T19): Novel Microwave-Based Non-Contact Oedema Severity Monitoring with Machine Learning
Anwesha Khasnobish
TCS,India

11:45

1571095822 (T18): An AI-Based E-Nose: a Novel Approach to Odour Sensing and Emotional Context Recognition
Aishik Pal
IITJ-Indian Institute of Technology – India

12:00

📄 *Sensors Letters Paper*

1571097148 (T19): KGAN-Based Semisupervised Domain Adapted Human Activity Recognition
Pritam Khan, Soham Chaudhuri, Dhruv Santosh Singh and Faisal Amaan
SRM Institute of Science and Technology – India

11:30 – 12:15
Robotics & Digital Twin
Room: Seminar Room 1
Session Chair 1: Sujay Kadam
Session Chair 2: Bakul Gohel

11:30

📄 *Sensors Letters Paper*

1571105012 (T19): Tracking and Estimation Approach for Human-Aware Mobile Robot Navigation
Winston Doss Marveldoss, Bijo Sebastian and Bandaru Joshika
Indian Institute of Technology, Madras

11:45

📚 *Invited Journal Author*

1571096210 (T17): A Planar Coil Based Inductive Bend Sensor for Soft Robotic Applications
Debasrita Kar, Boby George, K Sridharan
IIT Madras, India

12:00

📚 *Invited Journal Author*

1571095579 (T17): Subblescope: Novel Thin-Film Haptic Sensing Using a Single-Bubble Approach, A Wearable Accelerometer-Based System for Knee Angle Monitoring During Physiotherapy, Subblescope: Novel Thin-Film Haptic Sensing Using a Single-Bubble Approach
Debadutta Subudhi
Indian Institute of Technology Chennai,India

11:30 – 12:30
Medical and Digital Healthcare-III
Room: Seminar Room 2
Session Chair 1: Lopamudra Giri
Session Chair 2: Renu John

11:30
1571068544 (T3): Accurate Blood Pressure Prediction Using Korotkoff Sound and Cuff Pressure: A Pilot Study
Sushrut Lingayat
TCS,India

11:45
Invited Journal Author
[1571096680 (T17): A Metglas-Based Magneto-Triboelectric Energy Harvesting Device for Biomedical Applications](#)
Dibyajyoti Mukherjee
IIT Delhi,India

12:00
Sensors Letters Paper
[1571096981 (T19): High-Throughput Antimicrobial Susceptibility Assessment using Non- Faradaic Electrochemical Impedance Spectroscopy](#)
Rhea Patel
IIT Bombay,India

12:15
Sensors Letters Paper
[1571104883 (T19): Electric Field-Induced Exosome Lysis and Quantification of TSG101-Derived Protein via Electrochemical Sensing](#)
Nusrat Praween
Indian Institute of Space Science and Technology, Thiruvananthapuram,India

12:30
Sensors Letters Paper
1571098182 (T19): Gold/ Cerium(IV) Oxide Modified Flexible Electrodes for Enzymatic Detetcion of Triglyceride
Parvathy Nair, Varun Santurkar, Khairunnisa Amreen, RN Ponnalagu, Sanket Goel
(BITS Pilani, Hyderabad Campus, India)

11:30 – 12:30
Emerging Technologies-I
Room: Seminar Room 3 & 4
Session Chair 1: Shovan Bhaumik
Session Chair 2: Siva Rama Krishna Vanjari

11:30
1571073721 (T8): Connected Vehicles Testbed for Real-Time Deployment of Use Cases at TiHAN IIT Hyderabad
Venkata Satya Surya Phaneendra Pydimarri, Venkata Sunnam, Harin Ragishetti, Prasad M and Murali Krishna C, Annu Sahu, Rajalakshmi P
IIT Hyderabad, C-DAC – India, Centre for Development of Advanced Computing, India

11:45
1571073613 (T9): Two-Stage Optimization Algorithm for Model Parameter Extraction of a EIS-Based Pocket-Sized Adulterant Detection System for Coconut Oil
Meruga Udaya, M Ghanashyam Krishna and Samrat Sabat
University of Hyderabad, India

12:00
1571068483 (T11): An On-Chip All-Digital Low-Mismatch CMOS Process Monitoring Sensor Circuit for Accurate Process Sensing in 28-nm FD-SOI Technology
Anuj Bhardwaj, Vibhor Saraf, Anand Mishra
STMicroelectronics, India

12:15
📄 *Sensors Letters Paper*
1571101747 (T19): Wireless Powered Passive Resonant Based Omnidirectional Sensing System in Human Cooperative Robots
Vikas Kumar
IIT Delhi,India

12:30 – 13:30
Lunch

13:30 – 15:00
Sensors Interfaces and Sensors Analytics-II
Room: Auditorium 1
Session Chair 1: Subho Dasgupta
Session Chair 2: Deepika Gupta

13:30
INVITED:
Subho Dasgupta

14:00
1571073224 (T9): In-Built Electric Field Modulated p-Si/n-MgZnO Thin Film P-N Junction-Based UV Photodetector
Mritunjay Kumar, Jay Chandra Dhar
National Institute of Technology Nagaland, India

14:15
1571069172 (T9): Laser Induced Graphitic Carbon on Kevlar Cloth: A Promising Material for Electrochemical Sensing
Md Rasel, Alida Russo, Aidan Quinn, Daniela Iacopino
Tyndall National Institute, Ireland

14:30
1571072982 (T9): Adaptive Single Micro-Particle Detection and Segmentation in Self-Mixing Interferometry Signals
Sebastian Sierra and Julien Perchoux, Francis Jayat, Clement Tronche and Santiago Perez, Adam Quotb
Institut National Polytechnique de Toulouse - France, University of Toulouse – France

14:45
1571069257 (T9): PdSe2 Doped ZnO for Highly Selective Hydrogen Sensing
Aarthi S M
IIT Bombay,India

13:30 – 15:30
Quantum Sensors and Emerging Technologies II
Room: Seminar Room 1
Session Chair: Poornendu Chaturvedi

13:30
INVITED:
Poornendu Chaturvedi

14:00
1571069387 (T11): Investigation on the Etching Characteristics of Si{100} in Low Concentrations of TMAH Solutions for MEMS-Based Sensors
Priyanka Dewangan, Vishal Sahu, Robbi Vivek Vardhan, Mahesh Peddigari, Prem Pal
Indian Institute of Technology Hyderabad, India

14:15
1571073622 (T11): Mitigating Stiction Failures in In-Use M/NEMS-Based Sensors Using a Reliable Piezoelectric RESET Mechanism
Khanjan Miteshkumar Joshi, Dhairya Singh Arya, Manu Garg, Piyush Kumar, Pushpapraj Singh
Indian Institute of Technology Delhi, Central Scientific Instruments Organisation

14:30
📚 *Invited Journal Author*
1571096811 (T17): Self-Powered, Ultra-Fast CuO Nanocubes Surface for Broadband Photosensing Applications
Sharmila B, Priyanka Dwivedi
IIIT Sri City, Chittoor & IIT Delhi, India

14:45
1571093153 (T18): Design of Open and Closed-Loop Architecture in Hexagonal Beam-Based MEMS Accelerometer
Sai Kishore Jujjuvarapu, Nikul Jani, Ashok Kumar Pandey
Indian Institute of Technology Hyderabad

15:00
📄 *Sensors Letters Paper*
1571103508 (T19): Force-Amplifying Compliant Mechanism for Closed-Loop MEMS Accelerometer
Nikul Jani, Sai Kishore Jujjuvarapu, Ashok Kumar Pandey, P.krishna Menon
Indian Institute of Technology Hyderabad, DRDO – India

15:15
📄 *Sensors Letters Paper*
1571107267 (T19): MoS2 MEMS-FET nN Force Sensor with Suspended Body FET and Piezoresistive Based Hybrid Transduction
Mayank Kohli, Joel Zacharias, and V. Seena
Department of Avionics, Indian Institute of Space Science and Technology, Thiruvanathapuram, Kerala, India

13:30 – 15:00
Medical and Digital Healthcare-IV
Room: Seminar Room 2
Session Chair 1: Venkatesh KP Rao
Session Chair 2: Indrajit Kar

13:30
1571069272 (T3): Plasmonic Fiber Optic Absorbance Biosensor for Rapid and Real-Time Detection of SARS-CoV-2 in Naso- and Oro-Pharyngeal Samples
Shovan Bhaumik
Indian Institute of Technology Patna,India

13:45
1571072507 (T3): Expert-Guided Multi-Head Contextual Bandits for Classifying Harmful Brain Activity Patterns
Sudipta Mukhopadhyay, Indrajit Kar and Zonunfeli Ralte
Zensar Technologies, India

14:00
1571073116 (T3): Angled-Wall-Induced Capillary Action for Different Biofluids in Microfluidic Sensing System Design
Kamalesh Tripathy, Mitradip Bhattacharjee
Indian Institute of Science Education and Research Bhopal, India

14:15
1571068203 (T9): Geometrical Study and Performance Analysis of Gold Interdigitated Microelectrodes (IDµEs): Towards Biosensing Applications
Patta Supraja, Matta Durga Prakash, Leenendra Chowdary Gunnam, jonnadula Naga srinivas
SRM University, India

14:30
1571073661 (T9): Graphite Electrode Based Bipolar Electrode Electrochemiluminescence Portable Platform for Point-Of-Care-Testing Applications
Ayushh G Khaire, Bidipta Rana, Abhijeet Awasthi, Sangeeta Palekar and Manish Bhaiyya, Jayu Pankaj Kalambe
Shri Ramdeobaba College of Engineering and Management, Nagpur, India

13:30 – 15:00
Emerging Technologies-II
Room: Seminar Room 3&4
Session Chair 1: Santanu Talukder
Session Chair 2: Santhosh Reddy Dhendi

13:30
1571085160 (T9): Bacterial Nanocellulose and Plant Fiber Derived Carbon Nanofiber-Based Sensors to Detect Volatile Organic Compounds
Mudrika Khandelwal
Indian Institute of Technology, Hyderabad,India

13:45
1571069101 (T11): Effect of Surfactant on Bulk Micromachining Characteristics of $NH_2OH+KOH$
Avvaru Venkata Narasimha Rao
Rajiv Gandhi University of Knowledge Technologies Ongole,India

14:00

📚 *Invited Journal Author*
1571095528 (T17): Decoration of Nanoenabled Optoplasmonic Sensors on Flexible Micropatterned Surfaces
Aman Paul
IIT Guwahati, India

14:15

📄 *Sensors Letters Paper*
1571099825 (T19): Efficient Electronic Digitizer for Linearizing Remotely-Located Thermistors
Sajeev R, Chandrika Sreekantan Anoop, Roy Thankachan
Indian Institute of Space Science and Technology – India, Vikram Sarabhai Space Centre – India

14:30

📄 *Sensors Letters Paper*
1571102814 (T19): Range-parameterized range and velocity constrained state estimation
Shovan Bhaumik
Indian Institute of Technology Patna, India

13:30 – 15:00
Emerging Technologies-III
Room: Seminar Room 5
Session Chair 1: Mousmi Chaurasia
Session Chair 2: Abhishek Jani

13:30

1571069838 (T7):Lithography-Free, Fully-Printed Lithium Phosphate-Based Humidity Sensors on Paper as Zero-Waste, Sustainable Electronic Solution
Sushree Sangita Priyadarsini
IISC Banglore,India

13:45

📄 *Sensors Letters Paper*
1571096938 (T19): Ab-Initio Study on Vertical and Lateral Heterostructures of WS2-MoS2 for Gas Sensing
Pawan Kumar, Julaiba Tahsina Mazumder and Ravindra Kumar Jha
Indian Institute of Technology Guwahati – India

14:00

📄 *Sensors Letters Paper*
1571107643 (T19): Phase-Based Approaches for Rapid Construction of Magnetic Fields in NV Magnetometry
Prabhat Anand
Tata Consultancy Services Research, Bangalore

14:15

📄 *Sensors Letters Paper*
1571108401 (T19): Vitamin B12 Detection in Aqueous Media Using MPA-CdTe Quantum Dots
Bhavana
KL University, Hyderabad, India

14:30

📄 *Sensors Letters Paper*

1571110959 (T19): An Efficient Linearizing Demodulator Interface for LVDT

Bhavesh Raj Singh Nehra1, Devika S Kumar and Anoop Chandrika Sreekantan

Indian Institute of Space Science and Technology, Kerala, & IIT Kharagpur, India

14:45

📄 *Sensors Letters Paper*

1571102807 (T19): Bearing-Only Tracking Considering Dynamics of a Towed Sensor-Array

Rohit Kumar Singh, Subrata Kumar, Shovan Bhaumik

Indian Institute of Technology, Patna, India

15:00 – 16:00
"Multicultural Exhibition, Gift Exchange and See-Off Tea"
Room: Poster Area
Session Chair 1: Amit Kumar,
Session Chair 2: Abhishek Appaji,
Session Chair 3: Saikumar Tara,
Session Chair 4: Vamsi Krishna Jadala

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To Showcase: Local customs & traditions | Unique artifacts & souvenirs | Interactive activities

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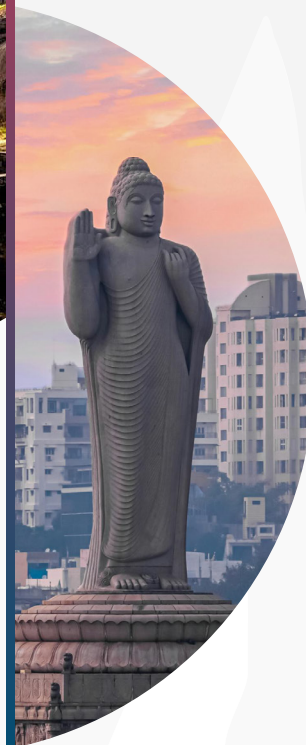
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