IEEE SPICES 2024

IEEE INTERNATIONAL CONFERENCE ON SIGNAL PROCESSING, INFORMATICS, COMMUNICATION AND ENERGY SYSTEMS

A flagship conference of IEEE Kerala section

Indian Institute of Information Technology (IIIT) Kottayam

Kerala, India

20 - 22 September 2024

Conference theme:

Harmonizing signals, Data, and Energy: Bridging the Digital Future

IEEE Conference Record Number 62143

Organizing Institute & Venue

Indian Institute of Information Technology (IIIT) Kottayam

Financial Co-sponsor: IEEE Kerala section

Important dates

Call for paper open: January 01, 2024

Full paper submission deadline: April 30, 2024

Notification of acceptance: June 28, 2024

Camera-ready paper submission: July 24, 2024

Conference dates: 20 - 22 September 2024

Author guidelines

- Authors are encouraged to submit full papers within a 6-page limit in standard IEEE double column format for review.
- Extra charges are applicable for papers exceeding 6 pages (a maximum of 8 pages).
- All submitted papers will be checked for plagiarism through the IEEE Cross-Check system.

All registered and presented papers will be submitted to IEEE Xplore for possible publication

About the conference

IEEE SPICES 2024 is a flagship conference of IEEE Kerala Section. IEEE SPICES 2024 is jointly organized by IIIT Kottayam and IEEE Kerala Section during 20-21 September 2024. The theme of the conference is “Harmonizing Signals, Data, and Energy: Bridging the Digital Future”. It is a platform for technical exchange amongst researchers from academia, research laboratories, and industries in various emerging fields of Signal Processing, Communication, Computer Science, Energy Systems, Instrumentation & Control Systems, Robotics and Smart Cities and so on. The technical program includes keynote speeches, plenary talks, regular technical sessions, and special sessions.

About IEEE Kerala section

IEEE activities in Kerala were formally initiated on 17 February 1975 as a subsection under the India Council. From the outset, IEEE Kerala Section has been noted for its vibrant activities. Several innovations from IEEE Kerala Section in organizing activities for students as well as professionals have been appreciated and replicated by the global IEEE community. IEEE Kerala Section has been organizing high quality, high impact technical events including several international conferences in the recent past.

About the Institute

IIIT Kottayam at Valavoor, Pala, Kerala is one among the IIITs that have been established as "Institutions of National Importance" by Ministry of Education, Govt. of India under the ambit of IIIT (PPP) Act 2017. The institute offers 4 year B.Tech. and B.Tech. (Hons) program, Ph.D. programs in frontier areas of CSE, CSE - Cyber Security, ECE and Mathematics as well as M.Tech. in AI & Data Science and Cyber Security for the working professionals.

ieeespices2024@iiitkottayam.ac.in | https://ieeespices2024.iiitkottayam.ac.in

Call For Papers

IEEE SPICES 2024 invites contributions in the following streams, but not limited to:

- **Signal Processing**
- **Next Generation Communication Networks**
- **Intelligent Computing**
- **Advanced Analytics and AI Integration**
- **Smart Energy Technologies**
- **Instrumentation for Smart Systems**
- **Cognitive Robotics**
- **Power Electronics and Smart Grids**

Track 1: Signal Processing

Speech and Audio Signal Processing, Image and Video Signal Processing, Image and Video Signal Processing, Remote Sensing, Multidimensional Signal Processing, Multirate Signal Processing, Wavelets and Filter Banks, Non-Linear Signal Processing, Bio-Medical Signal Processing, Pattern Recognition, Computer Vision, Sensors and Sensing Techniques.

Track 2: Next Generation Communication Networks

Antennas and Propogation, Cognitive radio systems and Networking, Multicarrier Communication Systems, Secure Communications and Cryptography, Space time coding and MIMO, Underwater Wireless Communication, Green telecommunications, Industrial electronics, IoT and Sensor Networks Mobile & Wireless Networks, Next-Generation Networking and Internet, Optical Networks & Systems, Satellite and Space Communications, Smart Grid Communications, ADHOC and Sensor Networks, Network Security, Social Media and Networking, Load Balancing, Scheduling and Resource Management in Networks.

Track 3: Intelligent Computing

Multi-Core Processing, Databases and Data Mining Applications, Distributed Databases, Query and Search Engine Optimization, Software Engineering, Software Project Management, Algorithms for Numerical Linear Algebra and Data Structures Large Scale Graph Analytics, High Performance Computing, Big Data Computing and its Applications Hardware Acceleration for Parallel Applications, Parallelism in Scientific Data Visualization and Visual Analytics Scientific/Engineering/Industrial Applications and Workloads, Exascale Computing and Cloud Platforms Data Center Architectures and Services, Parallel Languages, Programming Environments and Performance Assessment Hybrid Parallel Programming with GPUs and Accelerators.

Track 4: Advanced Analytics and AI Integration

Machine Learning Theories, Models and Systems, Clustering, Classification and Regression Methods Application of hybrid artificial intelligence approaches, Genetic programming, Business Data Analytics Deep Learning and Deep Analytics, Healthcare and Clinical Decision, Human Activity Recognition Natural Language Processing, Information Retrieval, Statistical Learning Theory, Scalable Analysis and Learning, Dimensionality Reduction, High Performance Computing for Data Analytics, Architecture, Management and Process for Data Science, Data Science Meets Social Science, Security, Trust and Risk in Big Data, Data Integrity, Matching and Sharing Privacy Preserving Big Data Access/Analytics, Bringing Big data to its knees by Deep Learning techniques, AI enabled Digital Solutions.

Track 5: Smart Energy Technologies

Transportation and traffic systems, Smart city - modeling, and simulation, Smart environment & ecosystems, Policy development, Mobility and transportation, Digital city and smart growth, Sustainability and energy efficiency, Intelligent infrastructure, Vehicle-to-infrastructure integration, Smart Urban Planning, & Design Solutions Technology Enabled Homes and Interiors, Robots Capabilities in Smart Cities, Smart buildings or Intelligent Infrastructure, Smart transportation and traffic systems, Smart emergency management.

Track 6: Instrumentation for Smart Systems

Adaptive/Robust systems and control, Aerospace/Flight control and Surveillance systems, Emerging control theory and applications, Fractional order systems and control, Intelligent control and instrumentation, Process control and industrial automation, Non-linear control systems, Novel Instrumentation for Process Measurement, Optimization and optimal Control, Predictive control, Process control, Micro and Nanotechnology in Instrumentation and Measurement, Advances in modern instrumentation.

Track 7: Cognitive Robotics

Autonomous Agents, Cognitive Approach for Robotics, Collective and Social Robots, Control and Supervision Systems, Drones and Internet of Things for Surveillance, Engineering Applications on Robotics and Automation, Guidance, Navigation and Control, Human-Machine Interfaces, Humanoid Robots, Human-Robots Interfaces Industrial Networks and Automation, Intelligent Transportation Technologies and Systems, Mechatronics Systems, Mobile Robots and Intelligent Autonomous Systems, Modelling, Simulation and Architecture, Network Robotics, Perception and Awareness Robot Design, Development and Control, Space and Underwater Robots, Surveillance, Fault Detection and Diagnosis, Telerobotics and Teleoperation, Vehicle Control Applications, Virtual Environment, Virtual and Augmented Reality, Vision, Recognition and Reconstruction.

Track 8: Power Electronics and Smart Grids

Intelligent micro-grids, Hybrid Renewable sources, Power system modeling and simulation, Power system planning and operation, Energy conversion techniques, Hybrid Electric Vehicles, Power electronics and Industrial Drives, Modelling, Simulation and Control of Power converters, Smart Devices & Metering, Fault Diagnosis, Condition monitoring, and Reliability of Electric Drives, Green Power and Energy Technologies, Smart Distributed and Autonomous Energy Systems, Energy Storage Systems, Power System Transients and Testing, Information and Communication infrastructure for future power systems.

Registration charges

Category	Indian delegates		Foreign delegates	
	IEEE (INR)	NON-IEEE (INR)	IEEE (USD)	NON-IEEE (USD)
Faculty	₹6500	₹8000	$255	$300
Industry/Corporate	₹8000	₹10000	$255	$300
UG/PG/Research Scholars	₹4400	₹5500	$125	$150
Co-author/Atendee	₹1000	₹2000	$75	$75

- Please note that the fees shown above are inclusive of all taxes and levies. Any extra charges along with applicable taxes or levies, if any, will have to be borne by the registrant.
- IEEE members are requested to upload IEEE membership card/receipt of payment during the online registration process if registering under IEEE category.
- Students are requested to upload valid student ID card (front and back side) during the online registration process if registering under that student category.
- Please keep a copy of the transaction ID, generated by the payment gateway as well as by your bank. You may need these later if you need to track your payment/registration.
- All correspondence regarding registration for IEEE SPICES 2024 should contain Paper ID as well as registration confirmation number.
- Please note that IEEE SPICES 2024, or its hosts, represented by the Organizing Committee as well as the IEEE Kerala Section, will not be responsible for any loss, financial or otherwise, caused by improper transactions conducted online.
- While Organizers have taken all reasonable precautions to ensure a safe online transaction, it is the registrant's responsibility, while paying the registration fee, to secure their user IDs, passwords, Paper ID, etc.

Registration guidelines

- IEEE SPICES 2024 accepts three types of Registrations: Full Author, Co-author and Attendees.
- Full Author registration is for presenting the accepted paper in the conference.
- Authors who are not presenting can register as Co-author.
- All other listeners of the conference can register as Attendees.
- It is mandatory that at least one of the authors should register in order to include the paper in the technical programme.
- If an author has got more than one accepted papers, each paper has to be registered separately.
- Maximum page limit of a paper is 6 pages in 2 column IEEE Conference paper style.
- The papers exceeding 6 pages (a maximum of 8 pages) should pay extra page charge of Rs.1000/- (Indian authors) or 20 USD (Foreign authors)