# 2026 1st IEEE International Conference on Instrumentation
## July 24 – 25, 2026
## Venue: National Institute of Technology Rourkela
## Program Schedule

| | Time | Venue | Event |
|---|---|---|---|
| Day 1: 24.07.2026 (Friday) | 8:00 – 9:00 AM | Dr. Abdul Kalam Innovation Center (TIIR) | Registration |
| | 9:00 – 10:30 AM | | *Inauguration Ceremony & Felicitation of Senior Academicians* |
| | 10:30 – 10:45 AM | | High Tea |
| | 10:45 – 11:45 Noon | | **Plenary Talk: Prof. Subhas C. Mukhopadhyay, Macquarie University, Australia**<br>*'Next Generation Of Smart Devices, IOT, Robots and Drones'* |
| | 11:45 – 12:30 PM | | **Keynote – 1: Prof. Amitava Chatterjee, Jadavpur University**<br>*'Next-Generation Robotics for Healthcare Applications'* |
| | 12:30 – 1:15 PM | | **Keynote – 2: Prof. Karabi Biswas, IIT Kharagpur**<br>*'White Poison in Your Glass: A Lab-to-Market Device for Detecting Adulterated Milk'* |
| | 1:15 – 2:15 PM | SAC Garden | Lunch Break |
| | 2:15 – 3:00 PM | Electronic Sc. Building | **Invited Talk – 1**<br>**Prof. Neelam Sinha IISc Bangalore**<br>**EC 420**<br>*'Neurodegeneration studies using MR Imaging'*<br>**Invited Talk – 2**<br>**Dr. Riddhi Ghosh, Hitachi Energy, Sweden**<br>**EE 401**<br>*'From Signals to Decisions: Addressing the Challenges in HV Power Equipment Diagnostics'*<br>**Invited Talk – 3**<br>**Prof. Soumyabrata Dev**<br>**Trinity College Dublin, Ireland**<br>**EC303**<br>*'Seeing and Predicting Air Pollution with Deep Neural Networks'* |
| | 3:00 – 4:30 PM | | **ES 1.1** \| **CA 1.1** \| **SIP 1.1** \| **SS 1.1** \| **IoT 1.1** \| **SIP 1.2**<br>**OT-1.1** \| **OT-1.2** \| **OT-1.3** \| **OT-1.4** |
| | 4:30 – 4:45 PM | | High Tea |
| | 4:45 – 6:00 PM | | **ES 1.2** \| **SIP 1.3** \| **SS 1.2** \| **IoT 1.2** \| **SIP 1.4**<br>**OT-1.5** \| **OT-1.6** \| **OT-1.7** \| **OT-1.8** |
| | 6:00 – 7:00 PM | | **WiE & IEEE SIGHT Event** |
| | 7:00 PM Onwards | SAC Garden | Gala Dinner |

| Track | Venue | Paper IDs | Track | Venue | Paper IDs |
|---|---|---|---|---|---|
| *ES 1.1* | *EE 205* | *846, 873, 1023, 1208, 1672* | *CA 1.1* | *EE 401* | *608, 902, 995, 1005, 1097* |
| *SIP 1.1* | *EC 303* | *163, 599, 848, 1465, 1618* | *SS 1.1* | *EC 336* | *525, 606, 920, 1037, 1359* |
| *IoT 1.1* | *EC 420* | *78, 422, 527, 640, 1502* | *ES 1.2* | *EE 205* | *392, 917, 932, 1583* |
| *SIP 1.2* | *EC 128* | *210, 616, 850, 968, 1017* | *IoT 1.2* | *EC 420* | *872, 1459, 1538, 1579* |
| *SS 1.2* | *EC 336* | *1445, 1463, 1520, 1555, 1615* | *SIP 1.3* | *EC 303* | *986, 1499, 1501, 1619* |
| *SIP 1.4* | *EC 128* | *437, 834, 1325, 1674* | *OT 1.1* | *VR-1* | *21, 849, 922, 948, 1127, 1395, 1505, 1678* |
| *OT 1.2* | *VR-2* | *412, 456, 501, 540, 619, 694, 876* | *OT 1.3* | *VR-3* | *639, 1536, 1613, 1625, 1628, 1662, 1659* |
| *OT 1.4* | *VR-4* | *704, 965, 1468, 1611, 1629, 1658, 1666* | *OT 1.5* | *VR-5* | *478, 799, 956, 1309, 1336, 1402, 1436* |
| *OT 1.6* | *VR-6* | *10, 955, 1449, 1458, 1471, 1491, 1720* | *OT 1.7* | *VR-7* | *9, 423, 529, 1092, 1389, 1424, 1457, 1705* |
| *OT 1.8* | *VR-8* | *114, 477, 550, 744, 1059, 1288, 1442, 1722* | | | |

*ES – Electrical Systems; CA – Control & Automation; SIP – Signal & Image Processing; SS – Sensors & Systems; IoT – Internet of Things; OT – Online Track*

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## July 24 – 25, 2026
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## Program Schedule

| | Time | Venue | Event | | | | | |
|---|---|---|---|---|---|---|---|---|
| Day 2: 25.07.2026 (Saturday) | 8:00 – 8:30 AM | Electronic Sc. Building | Registration | | | | | |
| | 8:30 – 10:00 AM | | CA 2.1 | SIP 2.1 | SS 2.1 | IoT 2.1 | SIP 2.2 | SS 2.2 |
| | 10:00 - 10:15 AM | | High Tea | | | | | |
| | 10:15 – 11:00 AM | Electronic Sc. Building | **Keynote – 3:**<br>**Prof. Massimo Alioto, National University of Singapore**<br>**EC 420**<br>*'Advances in Energy-Efficient Always-On AI Accelerator Architectures - From Battery-Powered to Purely-Harvested Systems'* | | | | | |
| | 11:00 – 11:45 AM | | **Invited Talk – 4**<br>**Dr. Hemant Kumar Rath, TCS Research**<br>**EC 303**<br>*'Industry 5.0 with AI-Native 6G'* | | | | | |
| | 11:45 – 1:30 PM | | CA 2.2 | SIP 2.3 | SS 2.3 | IoT 2.2 | ES 2.1 | IoT 2.3 |
| | 1:30 – 2:30 PM | SAC Garden | Lunch Break | | | | | |
| | 2:30 – 3:15 PM | Electronic Sc. Building | **Keynote – 4:**<br>**Prof. Thomas Thurner, University of Leoben, Austria**<br>**EC 303**<br>*'Energy-Efficient Edge-Intelligent IoT Sensor Systems: From Sensor System Integration to Real-World Deployment'* | | | | | |
| | 3:15 – 4:00 PM | | **Keynote – 5:**<br>**Dr. Sreelal S. Pillai, Indian Space Research Organisation**<br>**EC 420**<br>*'Data Acquisition Systems and their Applications'* | | | | | |
| | 4:00 – 5:15 PM | | *Valedictory Ceremony* | | | | | |
| | 5:15 – 5:30 PM | | High Tea | | | | | |

| Track | Venue | Paper IDs | Track | Venue | Paper IDs |
|---|---|---|---|---|---|
| *CA 2.1* | *EE 205* | *816, 870, 949, 1067, 1500* | *CA 2.2* | *EE 205* | *874, 1114, 1409, 1553, 1415* |
| *SIP 2.1* | *EC 303* | *749, 915, 1019, 1537, 1669* | *SS 2.1* | *EC 336* | *929, 1460, 1461, 1470, 1699, 1685* |
| *IoT 2.1* | *EC 420* | *382, 809, 1598, 1643, 1721* | *SS 2.2* | *EE 401* | *940, 959, 1397, 1510, 1556,* |
| *SIP 2.2* | *EC 128* | *209, 826, 1006, 1634, 1638, 1652* | *IoT 2.2* | *EC 420* | *383, 1024, 1534, 1631, 1681* |
| *SIP 2.3* | *EC 303* | *1016, 1165, 1184, 1511, 1584, 1646, 1668* | *ES 2.1* | *EE 401* | *964, 1029, 1345, 1684, 1697* |
| *SS 2.3* | *EC 336* | *798, 918, 997, 1099, 1559, 1671, 1692* | *IoT 2.3* | *EC 128* | *879, 1626, 1683, 1706* |

*ES – Electrical Systems; CA – Control & Automation; SIP – Signal & Image Processing; SS – Sensors & Systems; IoT – Internet of Things; OT – Online Track*

**VIRTUAL ROOM 1 & 5 - Video call link:** https://meet.google.com/qek-buoz-gyz

**VIRTUAL ROOM 2 & 6 - Video call link:** https://meet.google.com/bap-gzwb-nfv

**VIRTUAL ROOM 3 & 7 - Video call link:** https://meet.google.com/vto-frvu-knw

**VIRTUAL ROOM 4 & 8 - Video call link:** https://meet.google.com/nmg-cgpv-knz

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## Day 1: Friday, July 24, 2026

**Technical Track :** Electrical Systems (ES 1.1) **Venue :** EE 205 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 846 | Waste-to-Energy Technology Evaluation for Sustainable Electrical Power Generation: A q-Rung Orthopair Fuzzy Distance and Entropy-Based Decision Framework | Rajdip Mahajan |
| 873 | Comparative analysis of Machine Learning Models for Phase Imbalance Prediction in Rooftop Solar PV Systems | Sandarva Das |
| 1023 | Enhanced Harmonic Mitigation in PFC Boost Converter Using Dual-Loop ANFIS Control: A Comparative Study with Conventional PID | Abhishek Mishra |
| 1208 | Web3 Token Framework for Secure Distributed Data Storage with Built-in Integrity Checking | Junaid Alam |
| 1672 | Multi-Agent Robust SOC and SOH Estimation for Lithium-Ion Battery Packs | Priyanjali Dutta |

**Technical Track:** Control & Automation (CA 1.1) **Venue :** EE 401 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 608 | Predicting Bridge Structural Health Using Digital-Twin Based Multi Sensor Data | Sumedha Joshi |
| 902 | Optimized Restoration Path (ORP) selection for Energy-Efficient Drone Navigation using Pre-configured cycles in Precise Agriculture | Ravi Kumar |
| 995 | Comparative Analysis of Adaptive and Risk-Pruned A* Algorithms for Safety-Aware Motion Planning in Subterranean Environments | Nairith Saha Arnish |
| 1005 | Intelligent Flow Rate Control Using Data-Driven ANFIS: Performance Enhancement over PID under Disturbance Conditions | Saumya Tiwari |
| 1097 | A Multimodal Adaptive Control Architecture for Safe and Ergonomic Human-Robot Collaboration | Iyappan S |

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## Day 1: Friday, July 24, 2026

**Technical Track:** Signal & Image Processing (SIP 1.1) **Venue :** EC 303 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 163 | Reversible Data Hiding in Encrypted Images via Lightweight RRBE with MED based Prediction | Jagannath Sethi |
| 599 | YOLOv8-Based Real-Time Patient Safety Monitoring with Temporal Analysis and Automated Alerts | Kapurapu Saketh reddy |
| 848 | Modified SCA-Optimized SVM for Multi-Class Air Pollution Image Classification Using Deep Features | Subhas Mondal |
| 1465 | Intelligent Traffic Monitoring, Congestion Prediction, and Accident Detection Using YOLOv8-Based Video Surveillance | Subhakanta Panda |
| 1618 | Hybrid Deep Learning Framework with Modified Attention for Brain Tumor Classification Using MRI | Saurabh Kumar |

**Technical Track:** Sensors & Systems (SS 1.1) **Venue :** EC 336 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 525 | Predictive Maintenance of Naval Vessel Systems using Time and Frequency Domain Feature Extraction and Dynamic Thresholding | Shruti Doddi |
| 606 | Data-Driven Wind Turbine Fault Prediction | Saniya Joshi |
| 920 | Laser-Induced Graphene Electrochemical Sensor for Sensitive Detection of Phthalates | Abina Mariam Boby |
| 1037 | An AI-Enabled Sensor Fusion Based Approach For Improved Billing System | Chirag Gupta |
| 1359 | AI-Based Certificate Authentication: A Proposed Framework Integrating OCR and Blockchain | Akanksha Pandey |

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# Day 1: Friday, July 24, 2026

**Technical Track :** Internet of Things (IoT 1.1) **Venue :** EC 420 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 78 | Priority-Aware Task Offloading using Q-Learning in Autonomous Vehicles | Piyush Srivastava |
| 422 | Hybrid Deep Learning–Statistical Framework for Short-Term and Long-Term Stock Market Trend Forecasting | Barkathulla A |
| 527 | Cryptocurrencies: A Comprehensive Review of Digital Currency Revolution | Manan Mali |
| 640 | Edge-Based Multi-Environment LoRa Communication for Sustainable IoT Deployments | Amit Kumar Behera |
| 1502 | IoT-Based Indoor Air Quality (IAQ) Prediction System for Metropolitan Areas Using DBSCAN with Density-Weighted Local Regression | Sumit Chatterjee |

**Technical Track:** Signal & Image Processing (SIP 1.2) **Venue :** EC 128 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 210 | An Explainable Deep Learning Framework for the Differential Diagnosis of Left Ventricular Hypertrophy amid confounding Myocardial Infarction features | Gayathiri R R |
| 616 | Real-Time Face Detection Using Hybrid Haar Cascade and SSD on Embedded Platform | Vipin Kamble |
| 850 | LP Residual based Extended Residual Constant Q Cepstral Coefficients for Replay Speech Detection | Suresh Veesa |
| 968 | ClimaPulse: A Multi-Sensor IoT Architecture for Cloud-based Air Quality Monitoring and LSTM-Based Forecasting | Ratnakar Sahoo |
| 1017 | JCIC-UIE: Joint Color and Illumination Correction for Underwater Image Enhancement | Sobhan Kanti Dhara |

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# Day 1: Friday, July 24, 2026

**Technical Track :** Internet of Things (IoT 1.2) **Venue :** EC 420 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 872 | Smart Fertilizer Monitoring and Prediction for Groundnut Crops Using IoT and Machine Learning | Jyoti Ranjan Swain |
| 1459 | Verilog Based Implementation of Tiny Encryption Algorithm (TEA) For Resource Constrained IoT Devices | Smriti Singh |
| 1538 | QAOA-Based Dependency-Aware Task Offloading in Vehicular Edge Computing | Mayukh Sarkar |
| 1579 | IoT- Application Based on Control and Monitoring System for Single-Phase Induction Motor | K.Karthikumar |

**Technical Track :** Electrical Systems (ES 1.2) **Venue :** EE 205 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 392 | Dataset-Driven Hybrid AI Framework for Global Maximum Power Point Tracking Under Multi-Pattern Partial Shading | Arumay Santra |
| 917 | MCNN for Li-ion Battery Fault Diagnosis Across Multi-Manufacturer Datasets | Dadigi Yuvaraj |
| 932 | Temporal Integrity Monitoring Of SAEJ1772 Control Pilot Signals for Secure Electric Vehicle Charging | Kavyasree Majeti |
| 1583 | Early Detection and Alarming of Overheating and Internal Short-Circuit in EV Battery Packs Using IoT-Enabled Edge Monitoring | Akhila Gorle |

**Technical Track:** Signal & Image Processing (SIP 1.3) **Venue :** EC 303 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 986 | A Comparison of CNN Architectures for IDC Identification Using Transfer Learning and the Enhanced VGG19 | Prabir Kumar Das |
| 1499 | Intelligent Fault Identification in Underground Distribution Networks Using the K-Nearest Neighbor Algorithm | Pravat Kumar Sahoo |
| 1501 | Fault classification in underground distribution cable implementing EMD and Random Forest classifier | Pravat Kumar Sahoo. |
| 1619 | DAB-GNet: Dual Attention Brain Graph Network for Classification of Brain Tumors from MRI | Annika Bhattacharjee |

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# Day 1: Friday, July 24, 2026

**Technical Track:** Sensors & Systems (SS 1.2) **Venue :** EC 336 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 1445 | Electrical Circuit Design of Oral Cancer Cells Impedance Data using Current Feedback Operational Amplifier(CFOA) | |
| 1463 | FPGA-Based 1-D CNN Accelerator for Energy Efficient Wearable Healthcare Systems | Simran |
| 1520 | Instrumentation for the Extrusion of Continuous Fibre-Reinforced Polymer Filament in 3D Printing | Virupakshi Kawdike |
| 1555 | Recent Advances in Face Recognition Using mmWave Radar | Hemant Kumar Meena |
| 1615 | Implementation and validation of Geo-Pointing and Geo-Locating Algorithms on a multi-sensor EO - Airborne Surveillance System | Erroju Shiva Datta |

**Technical Track:** Signal & Image Processing (SIP 1.4) **Venue :** EC 128 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 437 | Real-Time Attendance Tracker using Wi-Fi Beacon and Face Matching | Arpan Pal |
| 834 | Quantitative Validation of Explainable AI for Breast Cancer Detection Using ROI-Guided Grad-CAM Analysis | Deepankar Satapathy |
| 1325 | HyperWeed: Precision Weed Detection via Dual-Encoder RGB-to-Hyperspectral Fusion | Priyanshu Sahoo |
| 1674 | An MSST-Driven Feature Engineering Framework for Binary EEG Seizure Detection Across Multiple Patients | Antara Ghosh |

# Day 2: Saturday, July 25, 2026

**Technical Track:** Control & Automation (CA 2.1) **Venue :** EE 205 **Time:** 8:30 – 10:00 AM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 816 | Cyber-Physical Intrusion and Tamper Detection for PLC-Driven Packaging Robotics | |
| 870 | Behavioural Cloning with Semantic Segmentation and Decoupled Safety-Aware Control for Campus Autonomous Navigation | Mohammed Yaseen Rayaan |
| 949 | AMESim-Based Modeling and simulation of an Electro-Hydraulic Brake Assist for Two-Wheelers | Venkataprasath Bakthavachalam |
| 1067 | A New Mayfly Optimization Based Maximum Power Point Tracker For PV Scheme | Prabhakar Modak |
| 1500 | A Dual-Controller Auxiliary-Thruster Architecture for Wind-Resilient Multirotor Position Stabilization | Aashish Sahu |

**Technical Track:** Control & Automation (CA 2.2) **Venue :** EE 205 **Time:** 11:45 – 1:30 AM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 874 | A Hierarchical Quantitative FMEA Framework for Reliability Enhancement of Laser Lithography Systems | Souvik Das |
| 1114 | MovieMatch: A Personalized Hybrid Recommendation System with Content-Aware Cold Start Support | Thanmayee Tirumalasetti |
| 1409 | Design and analysis of 2D LiNbO3/Pt/SiO2/PIB SAW Gas Sensor | Divyanshu Dinakar Rai |
| 1415 | AI-Driven Lane-Keeping System for Autonomous Vehicles | B Prem Sai |
| 1553 | Joint State Prediction and Parameter Estimation in a Nonlinear Oscillator using Physics Informed LSTM | Suryasnata Dash |

# Day 2: Saturday, July 25, 2026

**Technical Track:** Signal & Image Processing (SIP 2.1) **Venue :** EC 303 **Time:** 8:30 – 10:00 AM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 749 | Cross-Adversarial Analysis and Enhancement of EfficientNet-B0 for Deepfake Detection Against White-box Adversarial Attacks | Neha Niharika Kar |
| 915 | Enhanced EEG Classification for Mental Health Analysis using RPT-XGBoost | Suraj Verma |
| 1019 | Colon Cancer Segmentation Using Deep Learning: 3-D Pipeline with 5-Fold Cross-Validation Ensemble | Prabir Kumar Das |
| 1537 | Enhanced Compression Model: A Hyperprior-Based Neural Image Compression Framework with Context Modeling, Entropy Parameter Network, Semantic Gating, and Scale Refinement | Sanidhya Singh |
| 1669 | Adaptive Edge Detection in GIS Satellite Imagery Using IQR-Based Contrast Enhancement and Otsu Thresholding | Sagar Rokde |

**Technical Track :** Sensors & Systems (SS 2.1) **Venue :** EC 336 **Time:** 8:30 – 10:00 AM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 929 | Unique challenges in design of internal ballistics pressure measurement module for gun chamber pressure measurement | Pinki Singh |
| 1460 | Development of GUI & Signal Processing of Piezoelectric Pressure Sensor for Performance Evaluation of Armaments | Pinki Singh |
| 1461 | Evaluation of TDoA based Source Localization System for Range Applications | Navdeep Singh |
| 1470 | Digital Readout for Two-Wire Resistive Sensors with Lead Compensation | Nandigama Praveen Kumar |
| 1685 | UAV Path Following with Obstacle Avoidance Using Vector Field Approach | Kotyada Sri Krishna Hrithika |
| 1699 | DC & Interface Trap charge analysis of Parallelly Stacked Dual Dielectric Source pocket Ferroelectric Double Gate TFET | Sudhansu Sekhar Puhan |

# Day 2: Saturday, July 25, 2026

**Technical Track :** Internet of Things (IoT 2.1) **Venue :** EC 420 **Time:** 8:30 – 10:00 AM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 382 | Cross-Layer Optimization for Real-Time Data Transmission in IoT-WSN Environments | N. Tejasri |
| 809 | GNN-based Multi-Agent Control of Traffic Shockwaves in Sparse Vehicular Ad-hoc Networks | Prachi Nandi |
| 1598 | A TSN-Based Test-Bed for Deterministic Video Application: Implementation and Evaluation on 1G NIC | Shikha |
| 1643 | Recognition of Adulterants in Liquid Beverages: A Modified Fisher Discrimination Dictionary Learning-based Approach | Dr. Siddhartha Roy |

**Technical Track :** Sensors & Systems (SS 2.2) **Venue :** EE401 **Time:** 8:30 – 10:00 AM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 940 | FEM Modeling and Simulation of pMUTs for Rangefinding Applications | Pawan Kumar |
| 959 | Performance Evaluation of PCM/FM, QPSK and OQPSK under High Dynamic Doppler Conditions for Telemetry Systems | Bijayalaxmi Mohanty |
| 1397 | Simultaneous Generation of Biphoton Quantum Frequency and Squeezed Kerr Combs in Integrated Outer and Inner Coupled Microring Resonators | |
| 1510 | Electrical Performance Analysis and Traps Analysis of pocket-doped MS-TTFET | Sushmita Kumari |
| 1556 | Design and Analysis of Two Stage GaN HEMT MMIC LNA involving T-Type Matching Network for C-Band Radar Receiver | Dhanyashree |

# Day 2: Saturday, July 25, 2026

**Technical Track:** Signal & Image Processing (SIP 2.2) **Venue :** EC 128 **Time:** 8:30 – 10:00 AM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 209 | CNN-Based Lead Ranking of QRST-Suppressed Atrial ECG for Atrial Fibrillation Detection | Suryalakshmi Suresh |
| 826 | Beyond Pixel-Level Defense: Exploiting Embedding Manifold Shifts for DeepFool-Resilient DeepFake Detection | Kirti Nahak |
| 1006 | FPGA-Based Hardware Implementation of Image Filtering Techniques for Noisy Image Restoration | |
| 1634 | Emotion Recognition Using Facial Thermal Imaging: A Comparative Study | Sakshi Gupta |
| 1638 | Hybrid Quantum-Classical Neural Networks on High-Dimensional Imbalanced Tabular Data: A Convergence Efficiency Analysis | Aditya Shintre |
| 1652 | Resolving Emitter Ambiguity in Radar Pulse Deinterleaving Using Learned Representations | Debajyoti Sahoo |

**Technical Track:** Signal & Image Processing (SIP 2.3) **Venue :** EC 303 **Time:** 11:45 – 1:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 1016 | Unsupervised Stratification of PCOS Patients Using PCA-Based Fuzzy C-Means Clustering | Arindam Sinharayl |
| 1165 | Accurate Breast Lesion Segmentation in Ultrasound Images Using an Enhanced U-Net Deep Learning Architecture | Rahul Singh |
| 1184 | Transfer Learning-Based Comparative Analysis for Accurate Malaria Cell Image Classification | Rahul Singh |
| 1511 | Explainable Machine Learning for Post-Operative Patient Outcome Prediction Using DALEX | Dhrubajyoti Ghosh |
| 1584 | Explainable AI for Bias Detection and Mitigation in Loan Approval Systems | Bogem Chaithanya Srinivas |
| 1646 | A Wavelet-Enhanced Attention Network with Elliptical Directed Depthwise Convolutions for Nuclei Segmentation | Lopa Sarkar |
| 1668 | Two-stage Low-complexity and Hardware Deployable Fall Detection Technique | Shromana Majumder |

# Day 2: Saturday, July 25, 2026

**Technical Track :** Internet of Things (IoT 2.2) **Venue :** EC 420 **Time:** 11:45 – 1:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 383 | Low-Power Wide-Area Networking (LPWAN) Techniques for Rural IoT and WSN Deployments | Kumarswamy Kankala |
| 1024 | Adaptive Packet Routing in LEO Satellite Constellations Using Proximal Policy Optimization Under Time-Varying Network Topologies | Smita Rani Parija |
| 1534 | A Linear 1x4 Dual Band Patch Array Antenna with High Gain for C and X band Applications | Biswa Ranjan Swain |
| 1631 | A Comparative Performance and Security Analysis of Classical vs. Quantum Key Exchange Protocols: From RSA to BB84 | Aditya Shintre |
| 1681 | Graph-Based Encryption Framework using Star Graph Models: A Comparative Performance Analysis of ECC, RSA and ElGamal | Rohan Parab |
| | | |
| 1721 | Next-Generation IoT Gateway: A Containerized Multi-Protocol Architecture with Edge Intelligence | Kalyan Kumar Boddula |

**Technical Track :** Sensors & Systems (SS 2.3) **Venue :** EC 336 **Time:** 11:45 – 1:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 798 | Dual Dielectric SOI Tunnel FET for Low Power Applications: A performance Estimation study | Pinki Banerjee |
| 918 | A Compact Analog Interface for Four-Wire Resistive Sensors Using a Single Non-Inverting Amplifier with Differential Voltage Sensing | Vanga Manideep |
| 997 | First-Principles Examination of Hydrogenated Graphene for NO2 Gas Sensing Applications | S.D.Madhuri |
| 1099 | A High Gain Low Noise CMOS Lateral BJT Integrated Folded Cascode Amplifier for Biomedical Applications | Swaraj Kumar Singh |
| 1559 | Analytical Modelling and CoventorWare based FEM Simulation of a Serpentine Piezoresistive Microcantilever for Atomic Force Microscopy | Banibrata Mukherjee |
| 1671 | Design of Lidar IMU Intregrated SLAM Navigation framework using EKF in embedded platform | Banibrata Mukherjee |
| 1692 | Design of Adaptive Cruise Control System with integrated YOLO-v11 based object detection in Embedded Platform | Banibrata Mukherjee |

# Day 2: Saturday, July 25, 2026

**Technical Track :** Electrical Systems (ES 2.1) **Venue :** EE 401 **Time:** 11:45 – 1:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 964 | An Optimal Energy Management Approach for Photovoltaic-Integrated Electric Vehicle Charging Stations to Reduce Peak Load Stress | Binay Kumar Nayak |
| 1029 | Mitigating electromechanical oscillations in renewable integrated power system by optimised parallel upfc action | Edward M Cole |
| 1345 | A Multi-Task Deep Learning Framework for Fault Detection, Classification, and Localization in AC Microgrid | Mayukh Nandi |
| 1684 | Trap Depth Analysis of Oil-Paper Insulation based on Moisture Content | Sounak Nandi |
| 1697 | A Real-Time Embedded Framework for EKF-Based State-of-Charge Estimation of Lithium-Ion Batteries | Swastik Acharya |

**Technical Track :** Internet of Things (IoT 2.3) **Venue :** EC 128 **Time:** 11:45 – 1:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 879 | A Multi-Agent Graph RAG Framework with ReAct and A2A Protocol | Nitij Taneja |
| 1626 | Machine Learning-Aided 3D User Localization with STAR-RIS using SNR-Based Refinement | Vinay Bankey |
| 1683 | Machine Learning-Based Real-time Intrusion Detection System for IoMT Networks | Sk Khalik Meera |
| 1706 | Scalability Limits of Roadside Units in VANETs under Quantum Key-Constrained Security Framework | |

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## Program Schedule

# Day 1: Friday, July 24, 2026

**Technical Track:** Online Track (OT 1.1) **Venue :** Virtual Room 1 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 21 | Reinforcement Learning Algorithm based PID Controller for Temperature Control System | Mandhapalli Anitha |
| 849 | An Intelligent Weather-Adaptive Cruise Control System Using Fuzzy Logic Controller Variants | S N Deepa |
| 922 | Dynamic Modelling and Comparative Simulation Study of Control Methods for Lower Extremity Exoskeleton | B. Yohan Varghese |
| 948 | Smart EV Charging Station with Real-Time Slot Booking | Ruban Karthick V |
| 1127 | Adaptive Deep Reinforcement Learning for Autonomous Cyber Threat Mitigation in Smart Networks | Mithra C |
| 1395 | Design and Development of CPM Machine for Knee Rehabilitation | Shyam Ponsundar S |
| 1505 | K-Means Optimized Fuzzy Extended State Observer Design for Disturbance Rejection in Sliding Mode Attitude Control of a Quadrotor | Anusha Mukhopadhyay |
| 1678 | UAV-Assisted Road Crack Detection: A Deployment-Aware Deep Learning Benchmark | Stuti Narain |

**Technical Track:** Online Track (OT 1.2) **Venue :** Virtual Room 2 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 412 | SafeSight: A Visual Directed Severity Evaluation and Real Time Visual Identification of Personal Protective Gear | Aravind Krishna S V |
| 456 | Real Time Traffic Sign Recognition for Autonomous Driving System using CNN over FPGA | KM Renu Rai |
| 501 | Neural Mirrors: Establishing CNN Baselines for Human Facial Emotion Recognition | |
| 540 | Automated Detection of Media Bias in Political Speech Coverage: A Multi-Stage Pipeline Approach | Anurag De |
| 619 | Creation of an Immunoplasmonic Bacterial Cellulose Nanopaper Functionalized with Anti-CagA Antibodies for Naked-Eye LSPR Saliva H. pylori Detection | Melfin E Prinson |
| 694 | Swin Transformer-Based Hybrid Perceptual Hashing with Multi-Domain Feature Fusion for Robust Multimedia Authentication | Shashi Vardhan Reddy Mandumula |
| 876 | EarlyStampedeNet: A Spatio-temporal Deep Learning Framework for Early Detection of Crowd Congestion and Stampede Risks | Anurag De |

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**Technical Track:** Online Track (OT 1.3) **Venue:** Virtual Room 3 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 639 | Entropy-Adaptive Multi-Map Chaotic Modulation for Physical-Layer Security | Dhrumil Bhatt |
| 1536 | Deep Neural Network and Long Short-Term Memory Assisted Active Disturbance Rejection Controller for Missile Guidance System | Bhaswati Parashar |
| 1613 | Accelerating Equilibrium Learning in Multi-Agent Systems using FEQRA | Nihaarika S Bhavan |
| 1625 | ZC-MMV-AMP: Deterministic Pilot-Integrated Sparse Recovery for Grant-Free Massive IoT Access in Beyond-5G Networks | Sanidhya Singhal |
| 1628 | Optimal State Feedback Control of a Non-linear Magnetic Levitation System using Linear Quadratic Regulator | Siddhi Shankar Sapre |
| 1659 | PID Control of Nonlinear Two Rotor Aero-dynamical System with Communication Time Delay | Jitendra Sharma |
| 1662 | Adaptive QC-LDPC Decoder with Symbolic ROM, HARQ-Integrated Soft Combining, and Energy-Aware Layered Processing | Dhrumil Bhatt |

**Technical Track:** Online Track (OT 1.4) **Venue:** Virtual Room 4 **Time:** 3:00 – 4:30 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 704 | A Late-Fusion Hybrid Dual-Stream Architecture for Lung Cancer Detection: Integrating 2.5D and Pseudo-3D Networks | Vimal Singh |
| *965* | Evaluating Hallucination behavior in pretrained Large Language Models and a custom Transformer architecture using multi-metric uncertainty analysis | Subham Paul |
| 1468 | Modeling of Relational Patterns of Network Traffic using Graph Attention Networks and Federated Learning | Dhruv Jayant Tillu |
| *1611* | Real-Time Interactive 3D Generation: A Lightweight Hybrid Multi-Model Framework | Parikhit Kurmi |
| 1629 | Gradient-Boosted Neural Tree: A Novel Hybrid Architecture for Water Quality Prediction with Multi-Dataset Validation | Sagar Bisht |
| 1658 | Agro-tech approach deep learning framework for uav-based pest segmentation using attention U-Net and YOLO in SRI paddy field | Priyanka Jayapal |
| 1666 | AI-Based Multimodal Underwater Surveillance Using Integrated Visual and Acoustic Intelligence | Alagan A |

# Day 1: Friday, July 24, 2026

**Technical Track:** Online Track (OT 1.5) **Venue :** Virtual Room 5 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 478 | Micro-Doppler Radar-Based Drone RPM Estimation for Wireless Monitoring and Airspace Communication Security | Prasanna Kumar S |
| 799 | Federated multimodal foundation model adaptation for fair and explainable early disease detection under resource constraints | V. Deepa |
| 956 | Toward Clinically Deployable Real-Time Depth of Anesthesia Monitoring: A Causal, Recursive, and Explainable EEG-Based Framework | Priya Dharshini S |
| 1309 | An Uncertainty-Aware Hybrid Attention–Transformer Framework for 3D Medical Image Segmentation | Ananaya Sharma |
| 1336 | FALCON: Dual-Transformer Cross-Attention Anomaly Detection for Real-World Counterfeit Currency Verification | Sudhish Selvam Reddy |
| 1402 | A custom digitization with DWT approach for blind image steganography | Abhishek Toofani |
| 1436 | Multi-Task EEG Classification Using Transformer-CNN on Raspberry Pi | Tulluru Navya Sri |

**Technical Track:** Online Track (OT 1.6) **Venue :** Virtual Room 6 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 10 | A Smart Agriculture Ecosystem for Sustainable and Intelligent Farming | Dipendra Mahato |
| 955 | Advanced Numerical Study and Performance Characterization of a 34% Efficient Monolithic Perovskite–Silicon Tandem Solar Cell | Tarun Vasamsetti |
| 1449 | Ultrasensitive In1-xGaxAs/Si Heterojunction TFET with extended source for detecting breast cancer cell lines | Priyanka Saha |
| 1458 | Industrial Equipment Monitoring System | Sakshi Pasarge |
| 1471 | Electronic Interface Circuit for Lead Resistance Compensation in Two Wire Resistive Sensors | Shiraz Sohail |
| 1491 | Machine Learning Models for Yield Enhancement and Defect Detection in Semiconductor Manufacturing | |
| 1720 | Preliminary Analysis of Step Response Characteristics of Transfer Function for E-Tongue based on Voltammetry | Dr. Sanjeev Kumar |

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# Day 2: Saturday, July 25, 2026

**Technical Track:** Online Track (OT 1.7) **Venue :** Virtual Room 7 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 9 | Smart Helmet for Real-Time Health Monitoring and Accident Response | Dipendra Mahato |
| 423 | Cloud-Integrated Hybrid Analytical Model for Intelligent Pollution Detection and Forecasting in Smart Cities | |
| 529 | Privacy Shield: A Multi-Tiered Framework for PII Surveillance, Redaction, and Semantic Risk Analysis in Web Environments | Shaik Mohammad Mahfuz |
| 1092 | Delta AgriOS: A HydraSAR Deep Learning Framework for Satellite-Driven Crop Monitoring and Precision Irrigation Decision Support | Rithikkaa S J |
| 1389 | An IoT-Enabled Hybrid Model for Intelligent E-Waste Monitoring and Recycling in Smart Cities | Asha R |
| 1424 | Implement Federated Intelligence with Ensemble Stream Mining for Privacy-Aware and Collaborative Intrusion Detection in Distributed IoT Network Architectures | Vijayaraj C |
| 1457 | A Secure Web-Native SCADA Architecture for Real-Time CSTR Monitoring, 3D Digital Twins, and CFR 21 Part 11 Compliance | Viraj Pednekar |
| 1705 | Linking Feature Attribution and Counterfactual Explanations for Crop Recommendation | Abhinav N |

**Technical Track:** Online Track (OT 1.8) **Venue :** Virtual Room 8 **Time:** 4:45 – 6:00 PM

| Paper ID | Paper Title | Presenter |
|---|---|---|
| 114 | Online Detection of Dead DC Earth Faults in Grid Sub-Stations Without Interruption of Protection Circuits | Pravat Ranjan Suar |
| 477 | STER-A+: Trust and Energy-Aware Routing for LEO CubeSat Delay-Tolerant Networks | Prasanna Kumar S |
| 550 | An Ambient-Aware Dual-Mode Electric Vehicle Charger with Adaptive Topology Switching for Intelligent Grid-Interactive Operation | Soumya Bhardwaj |
| 744 | Lock Aware Adaptive Phase Frequency Detector and Charge Pump Architecture for Low Power PLL Systems | Pranav Vijaykumar Patil |
| 1059 | Modelling and Analysis of Electric Field Distribution of the Polymeric Nanocomposite under Various Stress Conditions | S Narasimha Rao |
| 1288 | A619n Adaptive Metaheuristic-Based Node Coverage Optimization in Wireless Sensor Networks | S Nithyanandh |
| 1442 | Adaptive cruise control and lane merging using predictive analysis for autonomous vehicles | J Indra Neel |
| 1722 | Numerical and Theoretical Analysis of the Effect of Geometry and Material on the Performance of Microcantilever Beams | Kiran Keshyagol |

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