

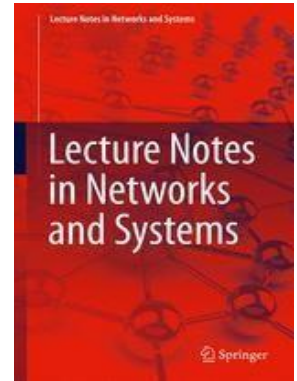


SESSION ORGANIZERS:

Dr. Mangesh Ramaji Kose,
Assistant Professor,
Department of Computer Science and Engineering,
Indian Institute of Information Technology Nagpur, Maharashtra, India
mkose@iiitn.ac.in

Dr. Swati Hira,
Assistant Professor,
Department of Computer Science and Engineering,
Indian Institute of Information Technology Nagpur, Maharashtra, India
shira@iiitn.ac.in

Dr. Vasundhara Rathod,
Assistant Professor,
Department of Computer Science and Engineering,
Indian Institute of Information Technology Nagpur, Maharashtra, India
vrathod@iiitn.ac.in



SESSION DESCRIPTION:

The rapid advancement of Artificial Intelligence (AI) and Data Science is revolutionizing biomedical signal and image analysis, leading to breakthroughs in early diagnosis, personalized treatment, and continuous health monitoring. The integration of EEG, ECG, and EMG signal processing with imaging modalities like MRI, CT, and X-ray enables comprehensive, multimodal healthcare intelligence. This session focuses on AI-driven innovations that combine Machine Learning (ML), Deep Learning (DL), and Explainable AI (XAI) to develop secure, interpretable, and efficient healthcare systems. It emphasizes progress in the Internet-of-Medical-Things (IoMT) and cyber-physical systems for real-time patient monitoring and predictive analytics. The session welcomes research across domains such as neuroimaging, radiology, cardiology, pathology, and telemedicine, highlighting translational applications and smart healthcare frameworks. The integration of Natural Language Processing (NLP) for clinical text analysis and report generation further strengthens AI's role in medical intelligence. It also prioritizes privacy, data security, and ethical governance to ensure trustworthy AI deployment in healthcare. In alignment with Industry 5.0, this session envisions a human-centric and sustainable healthcare ecosystem powered by intelligent sensing, learning, and decision support.

RECOMMENDED TOPICS (not limited to):

- ✦ AI, ML, and DL for biomedical signal and image processing
- ✦ EEG/ECG/EMG-based diagnostics and cognitive monitoring
- ✦ Medical image segmentation, enhancement, and multimodal fusion
- ✦ Computer Vision and Image Processing
- ✦ Transformer and diffusion models for medical image synthesis and denoising
- ✦ Federated and privacy-preserving AI for healthcare data
- ✦ Wearable sensors and Internet of Medical Things (IoMT)
- ✦ Explainable AI and decision support in medical diagnosis
- ✦ Brain-Computer Interface (BCI) and neuroimaging analytics
- ✦ Radiomics and computational pathology
- ✦ Biomedical data compression, transmission, and edge computing
- ✦ Bias mitigation and fairness in healthcare AI
- ✦ AI-driven drug discovery and digital therapeutics
- ✦ Healthcare cybersecurity, blockchain, and data governance`
- ✦ Multilingual and low-resource medical NLP systems
- ✦ Biomedical knowledge graphs and ontology-driven reasoning
- ✦ Secure data sharing and blockchain in healthcare
- ✦ Ethical AI frameworks for medical data governance

ICCS-2025

11th International Conference on Cyber Security Privacy in Communication Networks

Hybrid Mode (In-Person & Virtual)

December 08 – 09, 2025

***** CALL FOR PAPERS *****

(<https://iccs2025.iaasse.org/call-for-papers.html>)

SPECIAL SESSION

AI-Driven Biomedical Signal, Image, and NLP Innovations for Smart Healthcare Systems

Scopus®



IMPORTANT DATES

For Dates,

Refer <https://iccs2025.iaasse.org/call-for-papers.html#imp-dates>

SUBMISSION GUIDELINES

To know more about **paper format and other submission guidelines**, pls visit the following link of SN LNNS:

[Computer Science proceedings LaTeX2e package](#)

[Computer Science proceedings Word templates](#)

[Computer Science proceedings instructions for authors](#)

SUBMISSION PROCESS

Researchers and practitioners are invited to submit papers for this special theme session, **AI-Driven Biomedical Signal, Image, and NLP Innovations for Smart Healthcare Systems**. All submissions must be original and may not be reviewed by another publication.

Submission Link – Refer https://meteor.springer.com/ICCS_2025

All submitted papers will be reviewed on a double-masked, peer-review basis.

REGISTRATION:

For Details,

Refer <https://iccs2025.iaasse.org/register.html>



Cardiff Metropolitan University-United Kingdom (UK)



University of South Wales, United Kingdom (UK)



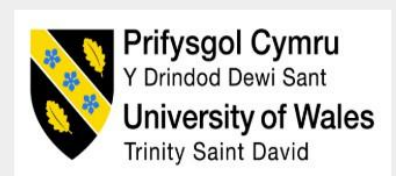
University of the west of England, United Kingdom (UK)



Swansea University, United Kingdom (UK)



Cardiff University, United Kingdom (UK)



University of Wales Trinity Saint David, United Kingdom (UK)