

Call for Papers

Special Issue on “AIoMT-enabled Systems-of-Systems for Complex Healthcare Environments”

The special issue delves into utilizing Artificial Intelligence of Medical Things (AIoMT)-enabled systems-of-systems (ASoS) as a technique tailored for complex healthcare environments (CHE). This ASoS_CHE model encompasses interconnected components, including medical facilities, healthcare providers, medical devices, patient records, electronic health records, other health-related technologies, and various stakeholders. By leveraging AIoMT, the aim is to optimize healthcare processes, bolster patient care, and enhance overall healthcare system operations. This technique involves carefully mapping and analyzing the interconnected systems, utilizing AI for predictive analytics, decision support, and improving patient outcomes. ASoS model-based approach in the context of health involves leveraging systems engineering principles and practices to design, analyze, and manage complex health systems. By applying ASoS to health systems, organizations can improve efficiency, streamline processes, and enhance patient care through a holistic and systematic system design and management approach.

The special issue aims to provide valuable insights for researchers and engineers involved in developing robust AIoMT-enabled systems-of-systems methods tailored for complex health systems. It encourages researchers and practitioners to submit their original contributions to further advance the collective knowledge that will shape the emergence of AIoMT-enabled complex health systems in diverse and dynamic environments. This collaborative effort will be pivotal in driving advancements within the medical field.

- Intelligent medical data sensing and processing for systems-of-systems model
- Wearable sensors for healthcare systems-of-systems model
- Embedded sensor systems in medical devices
- AIoMT_CHE through body area sensor systems with the actual implementation of sensor systems
- Patient-centric distributed and heterogeneous biomedical data modelling
- Big data analytics for healthcare sensors in complex ASoS
- Distributed sensor networks for biomedical intelligence, remote surgery, and robot-assisted
- IoT-enabled Cloud/fog/edge computing and big medical data collected by real sensor systems
- Federated learning through next-generation complex health networks
- Applied sensor systems for remote human health and activities monitoring
- Decision-making systems for ASoS_CHE sensor data analytics
- Data mining and fusion algorithms for ASoS_CHE-enabled sensors
- Medical Cyber-Physical Systems for complex health systems
- VR/AR sensors, mixed reality, and data visualization for ASoS_CHE

Submission Guidelines: Submitted articles must not have been previously published or currently submitted for publication elsewhere. All submissions are subject to the IEEE System Journal’s peer-review procedures. The journals must be submitted online at <https://mc.manuscriptcentral.com/ieee-sj>. The author guidelines can be found at <https://ieeesystemsjournal.org/authorinstructions/>. Select the paper type "**SI: AIoMT-enabled Systems-of-Systems for Complex Healthcare Environments**" upon submission to ensure that the article is considered for this special issue. Authors must also mention the same in their submission cover letter.

Important Dates:

Submission deadline: October 31, 2024

First round of review: December 15, 2024

Second round of review: January 31, 2025

Final decision: March 20, 2025

For further information, please contact any of the Guest Editors.

Guest Editors

Chinmay Chakraborty, Birla Institute of Technology, India; Email: cchakraborty@bitmesra.ac.in

Guangjie Han, Hohai University, China; Email: hanguangjie@gmail.com

Martin Margala, University of Louisiana at Lafayette, USA; Email: martin.margala@louisiana.edu

Gabriella Casalino, University of Bari, Italy; Email: gabriella.casalino@uniba.it

Wanqing Tu, Durham University, UK wanqing.tu@durham.ac.uk