



Journal of Medical Signals and Sensors (JMSS)

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## ***Special issue on Advances in Sensor Networks and Its Applications in Healthcare Systems***

In recent decades, the healthcare systems have potentially transformed with various technological features to meet future demands. Global population growth demands better healthcare systems with technological advancements to fulfill the needs to a greater extent. Advancements in sensor networks are seeking attention among healthcare professionals and researchers for their unique attributes. Healthcare systems are being widely investigated globally to develop higher standards of living among the public. Thus, advanced sensor networks are being scrutinized and aids in the enhancement of healthcare sectors and for a productive life.

The essentiality of implicating advanced sensor networks for healthcare systems anticipates rapid health development and helps to meet medical demands. Advanced smart sensor networks such as Wireless Sensor Networks (WSNs) and Wireless Body Area Networks (WBANs) are found to play a crucial role in managing healthcare systems to a greater extent. Moreover, Wearable Wireless Body Area Networks (WWBANs), Wearable and Implantable Wireless Sensor Networks are also found to provide higher beneficiary trends for the development of remote healthcare applications. Moreover, these sensor networks play a crucial role in monitoring vital parameters such as blood pressure, temperature, ECG. Further, these networks also ensure telemedicine and mobile health facilities which indeed aids in the enhancement of healthcare systems across the globe. Significantly, emerging sensor networks like Wireless Medical Sensor Networks (WMSNs) are utilized to identify the activities of day-to-day life and ensures to provide data for longitudinal studies which aid in the enhancement of healthcare systems. Above all, advanced sensing technologies are identified to track patients' wellness around every



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healthcare unit and help in the development of healthcare sectors. Ongoing applications of miniaturized sensor networks are also gaining importance for their significant applications and efficient management of healthcare sectors. Emerging advanced sensors and sensing networks possess the ability to revolutionize healthcare units to a greater extent.

However, there are many challenges and opportunities in the development of modest sensing networks to enhance the efficiency, sustainability, and safety of healthcare units. Limitations include security threats, data theft, inadequate knowledge on handling sensor networks, and technological failure. More probable challenges also include routing threats in WSNs; requirement of high bandwidth; high energy consumption of WSNs; complications in cross-layer design, etc. In addition, spreading greater awareness among the public about utilizing sensing technologies and their applications is considered to be more essential. Researchers and policymakers are most invited to present both theoretical and empirical research work against this context. The special issue provides various opportunities for researchers to ensure safe methodologies to implicate sensor networks and their applications in health care units.

***Topics of interest:***

- The role of a sensor network is empowering precision medicine
- Emerging trends and applications of advanced sensor networks for emerging healthcare applications
- Sensor network protocols for the development of healthcare applications
- Sensor network advances in healthcare systems and future challenges
- Role of wireless sensor platforms for monitoring the development of healthcare units



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- **Technical challenges and objectives in wireless sensor networks**
- **Healthcare applications and the technological implied medical resources**
- **Frontiers and applications of smart sensor networks for health care units**
- **Development of remote healthcare wireless sensor network for sustainable healthcare units**
- **Applications of wireless sensor networks in the enhancement of both urban and rural healthcare sectors**

***Important Dates:***

- ✓ **Submission: 10 June, 2023**
- ✓ **First decision: 30 Sept. 2023**
- ✓ **Revision and resubmission deadline: 10 Dec. 2023**
- ✓ **Paper acceptance: 20 Feb. 2024**

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