# IEEE Transactions on Consumer Electronics

## Call for Papers

### Special Section on "Consumer-driven energy-efficient WSNs architecture for Personalization and contextualization in E-commerce Systems"

**Theme:**

Wireless sensor networks have exerted significant progress in the recent past and have been widely used in different contexts. For instance, they have been successfully applied to analyzing and managing energy consumption in residences and industrial and urban areas. However, they suffer from energy limitations, especially in the case of sensor applications based on Sensor Web technologies, including e-commerce applications. Further, wireless sensor networks of intelligent objects are nowadays involved in different domains of our daily life. The network contexts are getting more and more complex and essential every day. The context-aware wireless sensor networks will simplify our daily lives by providing more personalized feedback and recommendations for thought to the users about their happenings. An e-commerce scenario will deploy a complex web of objects to provide a better user experience and interaction. By introducing the context, we can automatically detect the user needs and accordingly respond to different context changes.

E-commerce systems are deployed to provide services for shopping for goods and products over the Internet. E-commerce applications open up challenges that need to be addressed, like usability and manageability of e-commerce systems. Personalization is essential in e-commerce to create individual and contextual experiences for the consumers. However, the technology-based approaches have a significant drawback of high energy consumption and increased storage costs. Energy-efficient wireless sensor networks technology has the potential to improve this customer experience. As the complexity of E-commerce systems is growing dramatically, a new network-based solution can be proposed to efficiently manage and exploit the increasing amount of contextual information needed for a personalized recommendation. More advanced research in this domain will help solve three significant challenges associated with E-commerce applications. This attribute includes service type awareness for more efficient data access, contextualization for conserving energy, and community detection to reduce communication costs. Therefore it is essential to use the resources of sensor networks to perform scalable collection, storage, and analysis processes to provide adequate responses to consumer needs.

This special issue explores scalable and sustainable wireless sensor network architecture for personalized and context-aware environments in E-commerce. The main problem is to present a novel architecture for personalization and contextualization in e-commerce systems using energy-efficient wireless sensor networks. We welcome researchers and practitioners to present their novel and innovative research findings.

**Topics of interest in this Special Section include (but are not limited to):**

- An energy-efficient wireless sensor network architecture in personalization and contextualization in E-commerce
- Energy-aware wireless sensor network architectures with machine learning for E-commerce
- Context-aware computing in providing energy-efficiency across E-commerce
- Energy-aware autonomic context simulation architectures for E-commerce
- Personalization in E-commerce with energy-efficient technologies
- AI-assisted coordinating sensor network architectures for E-commerce
- Energy-efficient sensing protocols for E-commerce applications
- Trust-enabled energy-efficient measures for E-commerce applications
- Energy-efficient expert systems and technologies for E-commerce
- Design and modeling of artificial intelligence assisted energy-efficient wireless sensor networks for E-commerce
- Energy-efficient sensor and recommender system for E-commerce
- Enhancing personalization and contextualization in E-commerce with trusted computing

- Energy-efficient consumer analytics for emerging digital markets

**Important dates:**

- End of submission of Manuscripts: November 30, 2023
- Expected publication date (tentative): 3rd quarter, 2024

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**Instructions for authors:**

Manuscripts should be prepared following guidelines at: https://ctsoc.ieee.org/publications/ieee-transactions-on-consumer-electronics.html and must be submitted online following the IEEE Transactions on Consumer Electronics instructions: https://ctsoc.ieee.org/publications/ieee-transactions-on-consumer-electronics.html. During submission, the Special Section on "Consumer-driven energy-efficient WSNs architecture for Personalization and contextualization in E-commerce Systems" should be selected.

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