

# IEEE Transactions on Consumer Electronics

## Call for Papers

### Special Section on “Sustainability of Consumer Electronics: Safety, Security and Energy Efficiency”

#### Theme:

This SI focuses on studying the sustainability of consumer electronics, particularly safety, security, and energy efficiency, due to their increasing use in industry and academia. Data-driven and artificial intelligence (AI)-aided solutions have recently become popular to reduce toxic materials, improve energy efficiency, and ensure responsible end-of-life management. The goal is to identify strategies that meet the needs of consumers with advanced technologies. Safety concerns include passive and active strategies for handling system abnormalities. Consumer electronics' complexity has led to unprecedented connectivity, making security-critical in the last decade. Novel safety insurance methods and defense schemes are needed for deeply intertwined safety and security issues. Energy efficiency is crucial to reducing greenhouse gas emissions and improving competitiveness.

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

- Passive safety strategy for consumer electronic products, including advanced fault diagnosis and resilience approaches for accident prevention.
- Active safety strategy for consumer electronic products, including prognostic health management, the remaining useful life prediction, and extension.
- Fail-safe and safety barrier strategies for consumer electronic devices.
- Cyber and physical security for consumer electronic products, intelligent sensors, and production systems.
- Privacy-preserving issues for monitoring and control of consumer electronic products.
- Advanced maintenance strategy for consumer electronic products, including monitoring of carbon emissions, energy efficiency, and optimal trade-off strategy.
- The digital twin of consumer electronics, including modeling and qualification.
- Applications and benchmark study of novel sustainable consumer electronic ecology

#### Important dates:

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

#### Guest Editors:

- ♦ Prof. Shen Yin, Norwegian University of Science and Technology, Trondheim, Norway, shen.yin@ntnu.no
- ♦ Prof. Bin Zhang, University of South Carolina, Columbia, SC, USA, zhangbin@cec.sc.edu
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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 “**Sustainability of Consumer Electronics: Safety, Security and Energy Efficiency**” should be selected.