

Annals of Telecommunications



**Call for papers
Special Issue on**

Intelligent Green Communication Networks for IoT

Lead Guest Editor

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Topics of interest for this special issue include but are not limited to:

- Power consumption trends and reduction in intelligent communications for IoT.
- Machine learning approaches for energy-aware green wireless communication networks for IoT.
 - AI-based modeling and analysis for green communications for IoT applications.
 - AI-based green wireless sensor networks.
 - AI-based green cognitive radio networks.
 - Carbon-neutral intelligent communication networks for IoT.
 - Architectures and models for smart green communication networks for IoT.
- Quality of service in smart green communication networks for IoT ecosystem.
 - Intelligent green communication network designs and implementations for IoT ecosystem.
 - Experimental test-beds and results for intelligent green communication networks.

Green communication networks, with a focus on energy efficiency, is an emerging technological trend of great significance. These networks can significantly enhance sustainability for Internet of Things (IoT) with regard to power resources and environmental conditions. IoT is an ecosystem of connected physical objects that are accessible through the Internet. IoT involves the creation of a smart communication environment between smart homes, smart transportation, and smart healthcare systems with the help of several devices in a network that enables transmission of data within these devices, such as WSN (Wireless Sensor Network), RFID (Radio Frequency Identification), cloud services, NFC (Near Field Communication), gateways, data storage and analytics, and visualization elements.

The exponentially increasing number of nodes in the IoT ecosystem will lead to significant energy consumption. Thus, reducing carbon footprint in green communication networks is a key challenge facing researchers in academia and industry.

Due to the growing use of artificial intelligence (AI) in this area, several green communication approaches are entering a more mature phase, with exciting applications in various networks. Moreover, the information-sharing and intelligent decision-making capabilities help recent green communication networks play an important role in improving not only energy efficiency but also network performance. For instance, a simple and effective green communication solution is to place a node in intelligent sleep mode; this is achieved with the help of various MAC protocols with broad applications in wireless networks. However, it is essential to investigate the trade-off between the energy efficiency for green communication networks, and the IoT requirements. Moreover, it is crucial to evaluate the performance concerning the energy consumption, the throughput, and the response time, regarding IoT ecosystem.

This Special Issue on Intelligent Green Communication Networks for IoT in *Annals of Telecommunications* solicits submissions of high quality and unpublished articles that aim to address the technical problems and challenges concerning green communications networks. In particular, we seek submissions, which efficiently integrate novel AI approaches, focusing on IoT ecosystem performance evaluation across existing green communication solutions. Both theoretical and experimental studies for such scenarios are encouraged.

Papers must describe original research that advances state-of-the-art research and must not be simultaneously submitted to a journal or a conference with proceedings. Papers must be written in excellent English and should not exceed 10 pages. Previously published or accepted conference papers must contain at least 40% new material to be considered for the special issue. A covering letter to the Guest editors clearly describing the extensions made must accompany these types of submissions. All submissions must be made using the instructions available at:

<http://annalsoftelecommunications.wp.mines-telecom.fr/how-to-publish/>

The authors can directly submit their papers at: <https://www.editorialmanager.com/ante/> and must select the item "CfP: Intelligent green communication networks for IoT" when answering the submission questionnaire.

Proposed schedule

- **Manuscript Submission:** February 28, 2020
- **Online with DOI:** As soon as accepted
- **Publication date:** 2021