

Computer Communications

Call for papers

Special Issue on

Intelligent Green Communication Networks for 5G and Beyond

(<https://www.journals.elsevier.com/computer-communications/call-for-papers/aigreencommnet5gandbeyond>)

Green communication networks, with a focus on energy efficiency, is an emerging technological trend of great significance. These networks can significantly enhance sustainability for 5G and beyond networks with regard to power resources and environmental conditions. However, the high-density deployment of base stations and the exponentially increasing use of sensors and actuators in 5G and beyond networks, 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 device 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 network requirements. Moreover, it is crucial to evaluate the performance concerning the energy consumption, the throughput, and the response time, regarding 5G and beyond networks.

This Special Issue on Artificially Intelligent Green Communication Networks for 5G and Beyond in Computer Communications solicits submissions of high-quality and unpublished articles that aim to address the technical problems and challenges concerning green communications networks.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 network performance evaluation across existing green communication solutions. Both theoretical and experimental

studies for artificially intelligent green communication networks scenarios are encouraged. The topics of interest include, but are not limited to:

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

Important dates

- Deadline for submission: Nov 30,2019
- First review notification: Feb 15,2020
- Second review notification: May 20,2020
- Final notification to authors: Sep ,20 2020

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