

Special Issue on

Next Generation Drone Integrated Cellular Networks: Applications, Challenges, and Opportunities

CALL FOR PAPERS

The use of drones and unmanned autonomous vehicles (UAVs) is increasing day by day. Drones are now being used not only for military applications but also for consumer product delivery, environmental monitoring, natural resource, and disaster management, as well as remote health support. Currently, drones use UAV communication systems to connect with ground stations. In the emerging age of the Internet of Everything (IoE), if UAVs can connect with cellular networks, then not only can coverage and connectivity be increased, but drones could share Internet and data access with various heterogeneous devices which could be useful in various applications in remote areas. UAVs will become more and more popular due to their functionality, adaptability, availability, and low cost in comparison to existing cellular infrastructure. It will be widely used in agriculture, security and surveillance, military, and transportation applications, to name but a few. In this context, drones will act as base stations (drone-BS) and work in conjunction with a large number of diverse, energy-constrained, mobile, and smart devices around us. The cooperative work of drones will be of the utmost importance in the emerging telecommunication sector, with drones expected to communicate with 5G and beyond 5G networks.

This special issue aims to publish original research articles and review articles that cover the various challenges associated with drone integrated cellular networks. Research that considers the use of drones in extending connectivity as well as coverage, as well as articles that present novel applications that can benefit from drone integrated cellular networks, is particularly encouraged.

Potential topics include but are not limited to the following:

- ▶ Enlarged cellular coverage using 5G drone base stations
- ▶ Secure telecommunication systems using 5G cellular integrated networks
- ▶ Integrated vehicular networks and security issues
- ▶ Routing protocols for drone-based cellular networks
- ▶ Energy efficient flying techniques in UAVs networks
- ▶ Cognition in drone-based IoE
- ▶ Ultradense IoE using 5G-oriented UAVs
- ▶ Delay-tolerant approaches in 5G-oriented UAVs
- ▶ Energy harvesting technologies and communications in UAV-based 5G networks
- ▶ Protocols for drone-cellular communication networks
- ▶ Surveillance using drone-cellular networks
- ▶ Interference management in drone-cellular communications
- ▶ Coverage optimization using drone-cellular communications
- ▶ Radio connectivity and drone traffic management
- ▶ Battery lifetime in IoE-based UAVs
- ▶ Deployment of drone-BSs in the IoE/5G era
- ▶ New methods of drones manufacturing targeting 5G and beyond networks
- ▶ Propagation challenges in drone-cellular communications

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/jcnc/ngdcin/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Fadi Al-Turjman, Antalya Bilim University, Antalya, Turkey
fadi.alturjman@antalya.edu.tr

Guest Editors

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schoudh1@lakeheadu.ca

Muhammad Khalil Afzal, COMSATS Institute of Information Technology, Islamabad, Pakistan
khalilafzal@ciitwah.edu.pk

Ayman Radwan, Instituto de Telecomunicações, Lisbon, Portugal
aradwan@av.it.pt

Joel Rodrigues, National Institute of Telecommunications (Inatel), Fortaleza, Brazil
joeljr@ieee.org

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