CALL FOR ARTICLES
IEEE Vehicular Technology Magazine Special Issue on Communications Support for Unmanned Air Transportation

During the past few years, unmanned air transportation has come to the forefront of aviation research. Aviation authorities around the world have been making progress towards integrating drones or Unmanned Aerial Vehicles (UAVs) or Unmanned Aircraft Systems (UAS) into their national airspaces. In parallel, the private industry has been developing innovative applications, such as transportation of people and goods, medicine delivery, pipeline monitoring systems, and disaster-area aerial surveys. Projects such as the UAS Traffic Management (UTM) and Urban Air Mobility (UAM) demonstrate the high enthusiasm of the industry for unmanned air transportation. Before unmanned air transportation becomes a reality, there is a need to improve the reliability and security of UAV communications as they impact human safety.

Communication support for unmanned air transportation comes from three levels: satellites operating at the geostationary and low earth orbit levels, 4G/5G cellular networks operating on the ground, and ad hoc aerial networks operating in the mid-air. Today, with the support of a constellation of communication satellites, minute-by-minute global tracking of an aircraft is possible. In parallel, global standards for UAV communications and networks are also evolving. Global UTM association is leading the standardization efforts for UAS traffic management globally. IEEE recently initiated the P1920.1 and IEEE 1920.2 standards for aerial communications and networks and aerial vehicle to vehicle communications, respectively.

This special issue aims to share the progress and efforts being made by researchers, practitioners, and regulators towards the communication support for unmanned air transportation. This call solicits novel concepts that are currently being pursued or transformative ideas envisioned for the future of unmanned air transportation. Original submissions that discuss research, development, and evaluation strategies that support unmanned air transportation are encouraged within the following scope or related areas.

Autonomy and cooperation
Human-autonomy teaming
Cooperative strategies for critical tasks such as sense/detect and avoid
Geo-fencing, and trajectory design and optimization
Ad hoc and mesh-networking of UAS
Traffic management
Command, control, and navigation
Beyond radio line of sight communications
Navigation in GPS-denied areas
Drone-to-Drone and Drone-to-X communications
UHF band thru mm-wave bands and beyond communications
Massive MIMO and beamforming
UAS integration in National Airspace
Onboard sensors and their integration
Flight-tests, test-beds, and simulations
Safety, security and privacy
Regulatory aspects

Manuscripts should follow the IEEE VTM guidelines at http://www.ieeevtc.org/vtmagazine/submission.php
Submit PDF version of complete manuscripts to http://mc.manuscriptcentral.com/vtm-ieee

**Important Dates**

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**Guest Editors**

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