

Call for Contributions

1. Inform the Chair: with the Title of your Contribution

2. Submission URL:

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=MOBILITY+2021+Special>

Please select Track Preference as **UATN**

3. Note: *For 2021, all events will be held in a hybrid mode: on site or virtual choices (live, prerecorded videos, voiced presentation slides, and .pdf slides). We hope for better times allowing us to return to the traditional on site scientific events. However, we are ready to adapt any which way the conditions dictate.*

Special track

UATN: UAV Assistance to Terrestrial Networks

Chair and Coordinator

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along with

MOBILITY 2021, The Eleventh International Conference on Mobile Services, Resources, and Users

<https://www.iaria.org/conferences2021/MOBILITY21.html>

May 30/June 3, 2021 Valencia, Spain

Drones, or what is commonly known as Unmanned aerial vehicles (UAVs), could be involved in a wide range of applications, spanning from the agricultural domain, disaster management, and on-demand emergency communications, to environmental monitoring, 3D-mapping, and remote sensing. With the recent advent of beyond 5G(B5G) and soon of 6G networks, UAVs have seen impressive growth of demand from researchers, practitioners, and investors in multidisciplinary fields, in order to design alternative UAV-assisted solutions to handle the different constraints encountered in traditional protocols, applications, and systems. For instance, UAVs could be deployed as relays to bridge communication gaps of terrestrial networks witnessing instability on data transmission, like base stations, to extend the coverage and performance of 5G/B5G terrestrial cellular networks, and as data collectors to gather information from Wireless Sensor Networks (WSNs).

However, the assistance of UAVs to such systems and applications always raises a lot of exciting new challenges in terms of energy consumption, positioning and trajectory optimization, communications, and security, just to name a few. From the B5G point of view, the current UAV assistance paradigms should also be revised to explicitly consider different features, such as computing, network management, intelligent decisions, and energy efficiency.

The potential of the UAV assistance paradigm paves the path towards many advantages, including flexibility of deployment, reduced risk dangerous environments, agility in missions, and efficiency in communications. However, various open challenges are still to be tackled to ensure its correct deployment.

Topics include, but not limited to:

- 1) Networking solutions for UAV-assisted communications.
- 2) Cloud, fog, and edge computing architecture for UAV-assisted systems.
- 3) SDN and NFV for UAV communications.
- 4) Positioning and trajectory optimization for UAV-assisted systems.
- 5) Machine learning algorithms for UAV-assisted systems.
- 6) UAV-to-everything (U2X).
- 7) Testbed and validation for UAV-assisted systems.
- 8) Energy-efficiency in UAV-assisted applications.
- 9) Energy Harvesting in UAV-assisted systems.
- 10) Mobile Edge Computing in UAV-assisted systems.
- 11) NDN in UAV-assisted systems.
- 12) Data gathering in UAV-assisted networks.

- 13) Security, trust, and privacy in UAV-assisted Networks.
- 14) UAV-UGV Coordination.
- 15) UAV-IoT Networks.
- 16) UAV-enabled smart city.
- 17) UAV-assisted VANETs, MANETs, WSNs, and cellular networks.

Contribution Types

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.aria.org]
- Presentations: slide only [slide-deck posted on www.aria.org]
- Demos: two pages [posted on www.aria.org]

Important Datelines

Inform the Chair or Coordinator: As soon as you decide to contribute

Submission: April 16, 2021

Notification: May 3, 2021

Registration: May 13, 2021

Camera ready: May 13, 2021

Note: The submission deadline is somewhat flexible, providing arrangements are made ahead of time with the chair.

Paper Format

- See: <http://www.aria.org/format.html>
- Before submission, please check and comply with the editorial rules:
<http://www.aria.org/editorialrules.html>

Publications

- Extended versions of selected papers will be published in IARIA Journals: <http://www.ariajournals.org>
- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>
- Articles will be archived in the free access ThinkMind Digital Library: <http://www.thinkmind.org>

Paper Submission

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Registration

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at <http://www.aria.org/registration.html>

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