

## CALL FOR PAPERS

Workshop on **UN**manned aerial vehicle **A**pplications in the Smart City: from **G**uidance technology to enhanced system Interaction (UNAGI) Co-located with Percom 2019, Kyoto, Japan <u>http://www.grpss.ssr.upm.es/unagiworkshop</u> Contact us at: <u>unagiworkshop@gmail.com</u>

## Scope and topics

Unmanned Aerial Vehicles-based applications and services in the city are no more a remote possibility, but a short-term and broad-scope economic and social opportunity. Emergency-response coordination, public or private urban infrastructures monitoring, crowds and traffic flow control, logistics or support to intelligent transportation systems are some of the domains in which UAV may become key in the city of the future. Additionally, these aerial platforms will become an important element of the urban sensing network, thus it does exist a need of merging their information with the flow coming from traditional sensors through existing platforms.

Apart from the legislative steps forward, to make these operating scenarios feasible it is essential to ensure the efficient and safe operation of UAV fleets within a restrictive and complex operating area. It is also needed to enable the accurate acquisition, secure transmission and correct interpretation of drone-retrieved information, with the objective of guaranteeing the success of the mission. This second aspect, which considers the integration and exploitation of the mission information in the framework of smart city data and infrastructures, becomes critical to put new applications and business modes into operation.

UNAGI workshop aims at gathering advances and reflecting on pending issues to bring drones to the smart city. In this context, the workshop welcomes contributions considering, for example:

1) Concepts and technologies to design, develop and validate UTM (unmanned traffic management) platforms in urban areas, including their components, such as elements of trajectory optimization and synchronization, autonomous navigation and mechanism to guarantee flight safety (Sense & Avoid).

2) Information fusion architectures for acquisition, visualization and overall interpretation of city data, with a special focus on the integration and use of UAV sensor information as part of already existing Internet of Things cloud platforms.

3) Integration of UAV and future communication networks, such as 5G.

4) Issues on real-time video recognition, anomaly detection, adaptive video streaming and other challenges related to video sensing in UAV.

5) Visualization and management of big information flows through novel multimodal interaction concepts, including Augmented/Virtual Reality uses. Novel interaction means for drone & drone fleet management and control.

6) Advances on enabling technologies to provide support to UTM and drone-based applications. These technologies include, among others: Artificial Intelligence, Machine Learning, Machine Vision, Context-based Fusion and Multimodal Interaction Techniques.

7) Demonstrations and evaluations of novel services and applications of UAV as urban sensor and robot platforms (e.g. for emergency support, resource monitoring, logistics and distribution, etc.), through simulations and tests with real flights.

8) Analysis of privacy, security and other legal issues generated by the presence of UAV in urban areas.

9) Models to evaluate flight efficiency and fleet drone management from the business viewpoint.

10) Pervasive citizen applications based on drone information.

## Paper Submissions

The submitted paper should be in the IEEE conference format guidelines (<u>https://www.ieee.org/conferences/publishing/templates.html</u>) and should be no more than 6 pages in length. The paper should not be previously published or currently under review elsewhere. Papers must be submitted through EDAS (<u>https://www.edas.info/newPaper.php?c=25236</u>).

All submissions will be peer-reviewed and selected based on their originality, merit, and relevance to the workshop. In some cases, the Program Committee may decide to conditionally accept a paper to allow the authors to update their submission based on the committee's feedback.

Accepted papers will be published in the IEEE Digital Library, in the combined PerCom 2019 workshops proceedings.

At least one author of each accepted paper must register and attend the workshop to present the paper. No-shows of accepted workshop papers will result in the corresponding papers not being published via the IEEE Digital Library.

Authors of selected papers will be invited to submit extended versions to a Theme Issue in **Personal Ubiquitous Computing Journal**.

https://www.facebook.com/notes/personal-and-ubiquitous-computing/theme-issue-ondrones-as-iot-and-service-platforms-in-urban-environments-cfp/10155485498470458/

## Important Dates

- November 10, 2018: Deadline for paper submissions to Workshop
- December 22, 2018: Workshop paper notification
- TBA, 2019: Deadline for Camera ready submission
- TBA, March 2019 (11-15): Workshop day