



## 7th International Workshop on Wireless Networking, Control & Positioning for Unmanned Autonomous Vehicles (Wi-UAV'16)

Unmanned autonomous systems are increasingly used in a large number of contexts to support humans in dangerous and difficult-to-reach environments. Key areas of commercial aerial applications, such as inspection and logistics have gained attention lately and underline the potential of broad deployment of networked UAVs. In order to fulfill particularly challenging tasks, next-generation cellular networks will enable cooperation of a broad range of mobile devices, including autonomous or human-controlled devices with varying capabilities to communicate and interact with other devices. Visionary scenarios foresee unmanned vehicles to be organized in networked teams and even swarms. This vision can be applied to a wide range of applications, e.g., autonomous driving including platooning and traffic control, exploration for search-and-rescue missions, and factory automation. The communication subsystem needs to provide highly reliable and delay-tolerant control links as well as data links. Unmanned vehicles also offer the capability to form ad-hoc wireless networks, for example to facilitate temporary hot spots and compensate network outages in case of public events and emergencies. The navigation sub-system must provide relative positioning information with sub-meter accuracy and very low latency (~1 ms). The steering and control unit needs to be tightly coupled with the communications and navigation subsystem to ensure proper decisions even with imperfect local information. The focus of the workshop will be solely on projects and research aiming at civilian applications. This seventh edition of the workshop aims to cover the most recent research results on new communications networks enabling the efficient control and context-awareness of teams of unmanned vehicles/systems operating in the air, on the ground, underwater, and in space scenarios.

### Technical Topics

- Communication architectures and protocols for unmanned autonomous aerial, underwater and ground vehicles
- Ad-hoc networking, routing, handover and meshing
- Localization, navigation, and path planning
- Agent based mobility, multi-platform control, cognitive capabilities, and swarming
- 5G communication and Tactile Internet networking for autonomous vehicles
- Cooperative network navigation
- Human-machine interaction
- Compressive and cooperative sensing and navigation
- Big data and machine learning for autonomous vehicles
- Beyond-line-of-sight operation and real-time motoring solutions for safe operations (incl. geofencing)
- New civilian services enabled by networked UAVs in agriculture, inspection, logistics, etc.
- Results from prototypes, test-beds and demonstrations

### Committee

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### Call for Papers

Proposals for papers related to the topics listed above are solicited (EDAS link: <http://edas.info/N22561>). Accepted and presented papers will be published via IEEE Xplore. All final submissions should be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures without incurring additional page charges (maximum 1 additional page with over length page charge if accepted). Papers exceeding 7 pages will not be accepted at EDAS.

For more information visit [www.wi-uav.org](http://www.wi-uav.org)

### Important Dates

Paper Submission:

1 July 2016

Paper Acceptance:

1 September 2016

Camera-Ready:

1 October 2016

Workshop Date:

8 December 2016