IEEE GLOBECOM™ 2018

IEEE GLOBAL COMMUNICATIONS CONFERENCE
9 - 13 December 2018 // Abu Dhabi, United Arab Emirates
GATEWAY TO A CONNECTED WORLD

Wi-UAV'18

This year's workshop features an interactive *lightning session* on "UAVs in extreme situations"!

9th International Workshop on Wireless Networking & Control for Unmanned Autonomous Vehicles (Wi-UAV'18)

Unmanned autonomous and especially unmanned aerial systems are being increasingly used in a large number of contexts to support humans in dangerous and difficult-to-reach environments. According to Gartner, commercial UAVs are one of the top tech trends in 2017. Key areas of commercial applications, such as public safety, inspection, surveillance, agriculture and logistics have gained attention lately and underline the potential of broad deployment of networked unmanned autonomous vehicles (UAV). Meanwhile, the advent of a new generation of highly capable UAVs has also led to an increased interest in using UAVs as a means to boost the performance and coverage of existing cellular systems. As such, next-generation cellular networks will have to integrate UAVs in a variety of ways. Visionary scenarios foresee unmanned aerial vehicles to be organized in networked teams and even swarms. Indeed, the communication subsystem needs to provide highly reliable and delay-tolerant control links as well as data links. Meanwhile, unmanned aerial vehicles also offer the capability to form ad-hoc wireless networks, for example to facilitate communication in temporary hot spots or areas with scarce coverage, while potentially aiding to compensate network outages in case of public events and emergencies. This ninth edition of the workshop aims to cover the most recent results of international research on new communication networks enabling the efficient control and context-awareness of teams of unmanned vehicles/systems with an emphasis on civilian and aerial applications, while any related work on unmanned autonomous systems working in comparable conditions (underwater, space, ground) is also invited.

Technical Topics

- Communication architectures and protocols for unmanned autonomous vehicles.
- Performance analysis and tradeoffs of UAV-enabled communications.
- New cellular network paradigms that rely on UAVs for wireless communications.
- Ad-hoc networking, routing, handover and meshing.
- Cooperation of ground, aerial and maritime unmanned vehicles.
- Localization, navigation, and dynamic path planning.
- Agent based mobility, multi-platform control, cognitive capabilities and swarming.
- Cooperative network navigation.
- Multi-agent control and optimization.
- Communication, control and computing for autonomous vehicles/systems in 5G (e.g. Internet-of-Things, mission-critical applications, Tactile Internet).
- Game-theoretic and learning solutions for autonomous systems communications and control.
- Optimal deployment strategies for autonomous vehicles and UAVs.
- Passive localization.
- Human-machine interaction.
- Compressive and cooperative sensing and navigation.
- Big data and machine learning for autonomous vehicles.
- Results from prototypes, test-beds and challenges

Key note on Airborne Communication Networks

Halim Yanikomeroglu, Carleton University, Canada

Organizing Committee:
- Mehdi Bennis, CWC, University of Oulu, Finland.
- Jonathan How, MIT, Aerospace Controls Laboratory, USA.
- Yasamin Mostofi, University of California Santa Barbara, USA,
- Ronald Raulefs, DLR, Communications and Navigation, Germany.
- Walid Saad, Virginia Tech, USA.
- Dirk Slock, EURECOM, Communication Systems, France.
- Christian Wietfeld, TU Dortmund University, CNI, Germany.
- Henk Wymeersch, Chalmers University of Technology, Sweden.

Technical Program Committee (to be confirmed):
- Kemal Akkaya, Southern Illinois University Carbondale, USA
- Christian Bettstetter, University of Klagenfurt, Austria.
- Torsten Braun, Universität Bern, Switzerland.
- Rui Campos, University of Porto, Portugal.
- Liang Cheng, Lehigh University, USA
- Alessandro Colombo, Politechnico di Milano, Italy.
- Eric W. Frew, University of Colorado, USA.
- David Gesbert, Eurecom Institute, France.
- Niklas Goddemeier, Smart Robotics Systems, Germany.
- Karina Gomez, RMIT University, Australia.
- Ismail Güvenc, Nort Carolina State Univers, USA.
- Mahbub Hassan, Univ. of New South Wales, Australia.
- Tor Arne Johansen, NTNU, Norway.
- Richard Martin, The Air Force Institute of Technology, USA.
- Bhaskar Krishnamachari, University of Southern California, USA.
- Urbashi Mitra, Univ. of Southern California, USA
- Andreas Mitschele-Thiel, TU Ilmenau, Germany
- Gerard Parr, University of Ulster, U.K.
- Shigeru Shimamoto, Waseda University, Japan.
- Antonios Tsourdos, Cranfield University, UK
- Luiz Vieira, Universidade Federal de Minas Gerais, Brazil.

Important Dates

Paper Submission:	~~Jul 1~~ **Jul 14, 2018 (FIRM!)**
Paper Acceptance:	**Aug 15, 2018**
Camera-Ready:	**Sept 15, 2018**
Workshop Date:	**Dec 9, 2018**

Proposals for papers related to the topics listed above are solicited (EDAS: https://www.edas.info/newPaper.php?c=25065).
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.

Further information at: www.wi-uav.org