6th International Workshop on Wireless Networking, Control & Positioning for Unmanned Autonomous Vehicles

Unmanned autonomous systems are increasingly used in a large number of contexts to support humans in dangerous and difficult-to-reach environments. 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 musts 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 sixth edition of the workshop aims to cover the most recent results of various international research projects on new communications networks enabling the efficient control and context-awareness of teams of unmanned vehicles/systems operating on the ground, in the air, underwater, and in space scenarios.

Technical Topics

- Communication architectures and protocols for un-manned autonomous vehicles
- Ad-hoc networking, routing, handover and meshing
- Cooperation of ground, aerial and maritime unmanned vehicles
- Localization, navigation, and path planning
- Agent based mobility, multi-platform control, cognitive capabilities, and swarming
- Cooperative network navigation
- 5G communication for autonomous vehicles
- Multi-agent control and optimization
- 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 demonstrations

Committee – Tentative (to be confirmed)

Organizing Chairs:

Jonathan How, Massachusetts Institute of Technology, USA
Yasamin Mostofi, University of California, Santa Barbara, USA
Ronald Raulefs, DLR, Germany
Dirk Slock, EURECOM, France
Christian Wietfeld, TU Dortmund University, Germany
Henk Wymeersch, Chalmers Univ. of Technology, Sweden

Technical Program Committee:

Giuseppe Abreu, Jakobs University Bremen, Germany
Kemal Akkaya, Southern Illinois University Carbondale, USA
Christian Bettstetter, University of Klagenfurt, Austria
Torsten Braun, Universität Bern, Switzerland
Liang Cheng, Lehigh University, USA
Alessandro Colombo, Politechnico di Milano, Italy
Davide Dardari, Univ. of Bologna, Cesena, Italy
Marco Dorigo, Université Libre de Bruxelles, Belgium
Gerhard Fettweis, TU Dresden, Germany
Bernard Fleury, Aalborg University, Aalborg, Denmark
Eric W. Frew, University of Colorado, USA
Grace Gao, UIUC, USA
Mario Gerla, UCLA, USA
Franz Hlawatsch, TU Wien, Austria
Tor Arne Johansen, NTNU, Norway
Richard Martin, The Air Force Institute of Technology, USA
Urbashi Mitra, University of Southern California, USA
Andreas Mitschele-Thiel, TU Ilmenau, Germany
Richard Murray, Caltech, USA
Gerard Parr, University of Ulster, United Kingdom
Petar Popovski, Aalborg Universuty, Denmark
Tinku Rasheed, CREATE-NET, Italy
Daniela Rus, MIT, USA
Shigeru Shimamoto, Waseda University, Japan
Antonios Tsourdos, Cranfield University, United Kingdom
Luiz Vieira, Universidade Federal de Minas Gerais, Brazil
Klaus Witrisal, Graz Univ. of Technology, Graz, Austria
Fumin Zhang, Georgia Tech, USA
Yifeng Zhou, Communications Research Centre, Canada

Call for Papers

Proposals for papers related to the topics listed above are solicited. Maximum paper length is six pages. IEEE paper template is to be used. Papers will be published via IEEE Xplore.

Attendance Fee

Registration for this year's GLOBECOM workshop is $250 (to be confirmed), also valid for any other IEEE GC'15 workshops that day.

For more information visit www.wi-uav.org

Important Dates

Paper Submission:	Paper Acceptance:	Camera-Ready:	Workshop Date:
01 July 2015	**01 September 2015**	**01 October 2015**	**6 or 10 December 2015**