

2019 IEEE INTERNATIONAL WORKSHOP ON

# Metrology for Aerospace

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MetroAeroSpace 2019

## CALL FOR PAPERS

for the Special Session on

## METROLOGY AND INSTRUMENTATION FOR UNMANNED AERIAL VEHICLES

### ABSTRACT

Unmanned Aerial Vehicles (UAVs), Unmanned Aircraft Systems (UASs), Remotely Piloted Aircraft Systems (RPASs) or commonly used drones all describe one and the same thing: an aircraft or aircraft-system that is controlled from a remote without a human pilot onboard. Nonmatter how you call them, they are becoming the most popular and growing sector in aviation. JARUS, EASA, FAA and other national CAAs introduce laws for UAVs operations to secure safety for all airspace users. SESAR has launched U-Space demonstrators network to speed up the implementation of Unmanned Traffic Management (UTM) systems. At the same time scientists, researchers and developers all over the World work on new measurement sensors, actuators, navigation and control systems to support reliability, simplify control and include maximum autonomy for all flights. This special section focuses on their work to present modern metrology and instrumentation developed for Unmanned Aerial Vehicles. That is why suitable topics for this Special Session include but are not limited to:

- Measurement sensors for UAVs.
- Instrumentation for UAVs
- Metrology in U-space
- Deployment of UAVs for measurements.
- Measurement data exchange between UAVs and Ground Station.
- Ground station, post flight and on-line measurement data analysis for UAVs.
- Measurement data in autonomous flights algorithms.
- Simulation environments and testing of UAV and its instrumentation.

### ABOUT THE CONVENERS

**Bartosz Brzozowski** has a Dr Eng. degree in the field of Mechanics, with specialization in dynamics and control systems of aircrafts for the thesis about developed optimal control algorithm for multicopter Unmanned Aerial Vehicles (UAVs).

He has been working at the Faculty of Mechatronics and Aerospace of the Military University of Technology between 2009 and 2018. He took part in two projects financed from EU funds, four nationally founded research projects and received four institutional grants for Young Scientists. Those grants were a financial support to cultivate his main area of interest: navigation and control of UAVs.

In January 2018 he has become a R&D specialist and project manager in Breakthrough Technologies Division in JSW Innowacje S.A. He is currently leading a project of developing an autonomous inventory UAV system. He is also a board member in a HAWK-E - the company that is developing the Unmanned Traffic Management (UTM) system for Polish Air Navigation Services Agency.

For his scientific work he received a scholarship from province major during his PhD studies and an Award for the Best Paper presented by a Young Researcher at the 1st IEEE International Workshop on Metrology for Aerospace. Since 2017 he has been chairing the Special Session on Metrology and Instrumentation for Unmanned Aerial Vehicles.

**Konrad Wojtowicz** graduated and received a master's degree in Mechatronics, Aeronautics and Aerospace, Air Armament from Military University of Technology, Warsaw in 2006. He submitted his Ph.D. dissertation about technical simulators for UAV mission and control system computers, which was accepted in 2015.

He has participated in the institute's research related to developing an aircraft avionics system and simulation environment. He has been assigned to support military commissions as an expert in Ministry of Defense and Air Force HQ. He conducts research mainly on avionics software development, software engineering, and simulators.

Currently, he is an assistant professor at the Faculty of Mechatronics and Aerospace of the Military University of Technology, a chief of the Laboratory of Avionics and Air Armament and a supervisor of the Students Scientific Association. He is taking part in two projects funded by EU in the field of UAVs.

### ORGANIZERS



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