

The Field Robotics Center

Seminar Series

Friday, 8th May

GHC 2109 11:00am – 12:00pm

Lunch will be served



Joerg Dittrich

Research Scientist
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Flight Testing of an Unmanned Aircraft System - A Research Perspective

Abstract: This contribution outlines the lessons learned from ten years of flight test experience of ARTIS, a family of unmanned helicopters of the German Aerospace Center (DLR). The project started with a small team in scientific environment where hardly any flight test planning was necessary. Nowadays, ARTIS is part of a larger experimentation fleet including unmanned fixed-wing aircraft of different sizes and quad-rotors. As both, the team grew and complexity of the vehicle and missions increased, it became necessary to standardize the procedure of planning and performing flight tests. We present a procedure for flight test planning and realization that has proven successful in scientific environment. This process includes risk assessment and mitigation as well as personnel-wise organization during flight test. Exemplary, we show details of flight test campaigns for navigation in obstacle rich environments.

Speaker Bio: Joerg Dittrich is a research scientist and a department head at DLR Braunschweig. DLR is the primary German government funded research organization in the field of aerospace engineering as well as the German space agency, employing around 7000 people across multiple sites in Germany. During his first years at DLR he has been the lead project engineer for ARTIS (Autonomous Rotorcraft Testbed for Intelligent Systems), which deals with automatic flight path generation and flight control, environmental perception and optical navigation methods for unmanned helicopters. Since 2009 he has been responsible for the Unmanned Aircraft department at the Institute of Flight Systems, which focuses its research on the increase of automation, reliability and safety of unmanned aircraft systems across all types and configurations. Joerg graduated from Georgia Tech with a Master's of Science degree in Aerospace Engineering in 2002.



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