Aerial Robotic Manipulation and its Application to Inspection and Maintenance

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Abstract
This presentation will deal with new methods and technologies on aerial robotic manipulation developed mainly in the FP7 ARCAS and the H2020 AEROARMS projects. New aerial robotic manipulators with one and two arms will be presented. The interest of compliance will be pointed out as well as the consideration of aerodynamic effects. The talk will also introduce some perception and panning capabilities of the aerial robotic manipulation system. The last part of the presentation will be devoted to the application to inspection and maintenance, including industrial plants and infrastructures.

Biography
Dr. Anibal Ollero is Full Professor at the University of Sevilla, head of the GRVC Group and Scientific Advisor of the Centre for Advanced Aerospace Technologies also in Seville. He was professor of Univ. Santiago (ETSII Vigo) and Malaga in Spain and researcher at the Robotics Institute, Carnegie Mellon University (USA), and LAAS-CNRS (France). He is author of more than 660 publications, including more than 160 SCI papers and 10 books. He has been leader or participant in 160 projects, including more than 27 European Framework Programme projects, being coordinator of 5 of them, and is currently the coordinator of the H2020 AEROARMS project on aerial robotic manipulation and its application to inspection and maintenance. He is also leading the GRVC-CATEC team, one of the two finalists of the EUROC Challenge 3. He has been the advisor of 36 PhD theses. He obtained 18 international and national awards including the second EUROP-EURON 2010 technology transfer award, several best paper awards in conferences and in 2017 the First EU Drone Award (Best drone based application) and the European Commission ICT Innovation Radar 2017 Overall Winner Prize to the aerial robotic manipulators for contact inspection. He has led the development of very innovative technologies that have been transferred to many companies including AIRBUS Group, Navantia and many others. He delivered 109 plenaries and keynote presentations in International Symposia, Conferences and Workshops. Professor Ollero is currently member of the euRobotics Board of Directors and coordinator of the Aerial Robotics Topic Group and co-chair of the IEEE Technical Committee on Aerial Robotics and Unmanned Aerial Vehicles.