

# Mattia Giurato, PhD Candidate

## Curriculum Vitae



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## DOCTORAL RESEARCH

### Design, integration and control of multirotor UAV platforms

During my Doctorate I have worked on the development of a systematic approach for the design of multirotor UAVs. Moreover I worked on the design and tuning of the flight controllers (both position and attitude) for multirotor UAVs using both model based and data driven approaches. In particular I have studied and implemented robust controllers, adaptive controllers and non-linear controllers. Such control laws have been designed, implemented and tested on conventional and unconventional platforms which I designed over the years. I have also worked on the model identification and parameter estimation for the flight dynamics modelling of these platforms which have lead to the design of accurate simulators.

## EDUCATION

MAR. 2019 – JUL. 2019	<b>Visiting researcher</b> LAAS CNRS Toulouse, France
NOV. 2016 – ONGOING	<b>Philosophiæ Doctor</b> Aerospace Engineering Politecnico di Milano, Italy
OCT. 2013 – DEC. 2015	<b>Master of Science</b> Automation and Control Engineering Politecnico di Milano, Italy
SEPT. 2010 – OCT. 2013	<b>Bachelor of Science</b> Automation and Control Engineering Politecnico di Milano, Italy

## WORK EXPERIENCE

MAR. 2016 – NOV. 2016 (FT)

Department of Aerospace Science and Technologies  
Politecnico di Milano, Italy  
**Research assistant**

Title of the project: "Modelling, identification and control of multirotor UAV", supervisor Prof. Marco Lovera

## CERTIFICATION

FEB. 2017	<b>Creative Technologies in the Classroom 101 Trainer</b> Arduino
MAR. 2014	<b>Simulink for System and Algorithm Modelling</b> MathWorks Training Services

## COMPUTER SKILLS

BEGINNER	Python
INTERMEDIATE	C, C++, PX4, ArduPilot, CATIA, Modelica, Dymola
EXPERT	MATLAB/Simulink, L <sup>A</sup> T <sub>E</sub> X, UNIX, SolidWorks, Arduino, Processing, Ultimaker Cura

## SKILLS

### Communication

Knowledge of two languages (Italian: Mother tongue, English: Fluent). Good attitude with public speaking. Optimal capacity to interact with people of different background and several geographical realities

### Management

Leadership, team managing and scheduling, long-term strategy planning

### Goal Oriented

I believe in action over long-winded discussions. I listen to everyone's viewpoints and use my judgement to immediately act based on consensus to achieve goals quickly and efficiently.

### Physical Dexterity

Manual manipulation of experimental equipment within the Aerospace System and Control Laboratory (ASCL) have contributed to an enjoyment of working with my hands.

### Passionate

I have been interested in engineering and the understand of how the world works from an early age. My education and research have cemented this interest into a passion. I greatly enjoy carrying out control theory applied to the aerospace research with potential practical applications.

## INTERESTS & HOBBIES

For years, I have developed a passion about RC Models (planes, helicopters, drones, etc.). Thanks to this passion I have learnt how to make them fly and first of all how to design and build them, and I have also improved my capabilities with hand-crafting. After years spent hands-on with a lot of practical projects (from electronics to 3D printing) I gained determination and patience.