



Universidad Carlos III de Madrid (UC3M), Spain (www.uc3m.es) invites applications to fill:

- **1 PhD position on “HYDROGEN-powered aircraft model design and climate-optimal aircraft operations using Artificial Intelligence”**

The successful candidate will join the Aero Research Group (<https://aero.uc3m.es/research/>). In particular, he/she will work in a interdisciplinary environment jointly at the Aeroelastic and Structural Design Lab (https://aero.uc3m.es/asd_lab-home/) with Prof. Rauno Cavallaro and Andrea Cini and the Aircraft Operations Lab (<https://aero.uc3m.es/dynamics-control-aerospace-systems/>) with Prof. Manuel Soler.

The duties of the new group member include:

- To develop different tasks in the recently granted Interdisciplinary project HYDROGENATING. The PhD topic (fully align with HYDROGENATING):
 - The overall purpose of HYDROGENATING project is to contribute to a more sustainable aviation through a climate-oriented aircraft trajectories that consider both CO₂ and non-CO₂ effects on climate change, Hydrogen-propelled aircraft models, and all supported by artificial intelligence (AI). More specifically, the aim of this interdisciplinary environment is twofold: 1) to develop new models of hydrogen-powered aircraft, including the assessment of non-CO₂ emissions and its impact to climate change; and 2) to develop optimization algorithms for environmentally oriented management of hydrogen-powered aircraft trajectories based on reinforcement learning.
- To contribute establishing a vigorous, internationally-competitive scientific research program.

The **desired skills** are:

- Outstanding academic record.
- Young MSc holder (or MSc student with 60 ECTS passed at contract's signature) with preferred background in Aerospace Engineering. Or, alternatively, in Electric Engineering, Control Engineering, Applied Mathematics & Statistics, Environmental Sciences and Climate Change. Also, candidates with tracks in other disciplines but outstanding academic record are invited to apply.
- International experience; team-working and communications skills.
- Ability to deal independently with scientific and engineering challenges, mainly in innovative, interdisciplinary technologies
- Excellent written and spoken English

The contractual conditions are:

- 4-year contract.
- Annual gross salary: 20000-22000€ range (salary supplements may be awarded by UC3M internal calls and by participating in other projects and contracts)
- Become part of a young, dynamic, highly qualified, collaborative team;
- Flexible working environment and schedule;
- Opportunity to travel to international conferences (Europe and overseas) and present research activities;
- Laptop;
- Health coverage under the National Health System.

Those interested in **applying** to this position please send to rauno.cavallaro@uc3m.es and masolera@ing.uc3m.es:

- a CV (max. 4 pages).
- a motivation letter of experience, interests and future goals (max. 1 pages)
- the contact information for two professional references.

Submission of applications is due to February 15th (though early applications are strongly encouraged). Position is expected to be filled as soon as we find a suitable candidate. The contract is to begin in March/April 2022.