The Aerospace Department (https://aero.uc3m.es/) of the Universidad Carlos III de Madrid (UC3M), Spain (www.uc3m.es) invites applications to fill **2 PhD positions**:

- **Ref. AERO-PhD-24-01-FormationFlight** Trajectory Optimization with application to formation flight.
- **Ref. AERO-PhD-24-02-IntelligentMeteorologicalAviation.** Artificial Intelligence and Meteorology with application to aviation.

The successful candidates will join the Dynamics and Control in Aerospace Systems Lab, within the Aero Research Group (https://aero.uc3m.es/research-areas/). In particular, they will work in the aircraft operations lab with Prof. Manuel Soler, Prof. Javier García-Heras, and María Cerezo (https://aircraftoperationslab.com/).

The duties of the new group members include:

- To pursue a PhD under the topic:
    - **Ref. AERO_PhD-24-01- FormationFlight.** The goal is to study the potential of commercial formation flight trajectory planning on both micro and macro levels. See https://aircraftoperationslab.com/formation-flight/
    - **Ref. AERO_PhD-24-02- IntelligentMeteorologicalAviation.** The goal is to develop the best AI architectures per weather (including climate change) phenomena impacting aviation to produce enhanced forecasts and/or nowcasts. See https://aircraftoperationslab.com/artificial-intelligence-and-aviation/
- To develop different tasks in the recently granted National and European Projects (i.e. STORM-ATS, Intelmet-PoC, Kairos, RefMap), all fully aligned with the PhD thesis topics.
- Access to the Spanish FPI scholarship
- To teach laboratory/exercises classes and supervise student projects within UC3M Bachelor and master's degrees in Aeronautical and Space Engineering. The teaching workload (if any) would be, in any case, low. Information on these two degrees, exclusively taught in English, is available at https://aero.uc3m.es/.
- To contribute to 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 background in Aerospace Engineering, Transportation Engineering, Control Engineering, Applied Mathematics & Statistics, Optimization, Computer Science, Data Science, Artificial Intelligence, Environmental Sciences & Climate Change, Meteorology. Also, candidates with tracks in other disciplines but outstanding academic records are invited to apply.
- International experience; teamwork and communications skills.
- Ability to deal independently with scientific and engineering challenges, mainly in innovative, interdisciplinary technologies

The **contractual conditions** are:

- 4-year contract.
- Annual gross salary: 22500-25500€ range (salary supplements may be awarded by UC3M internal calls)
- 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, including research stays in top universities.
- Laptop and
- Health coverage under the National Health System.

How to apply: Interested candidates must send their applications to mcerezo@ing.uc3m.es and gcarrete@ing.uc3m.es indicating in the e-mail subject the reference code (i.e. Ref. AERO-PhD-24-XX-YYY) of the preferred position (it may be both), including:

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

Submission of applications is due by June 15th (though early applications are strongly encouraged). The position is expected to be completed in July 2024, and the contract is to begin in September 2024 (though it might be earlier/later if agreed).