

Open call:

The [Space Propulsion and Plasmas Team](#) (EP2) and the [Modelling, Numerical Simulation, and Industrial Mathematics research group](#) (SCALA) at [Universidad Carlos III de Madrid](#) (UC3M) have been awarded project **MareTerra**: ‘Solving anomalous transport in Hall effect thrusters with robust data-driven analysis techniques’. The project addresses the fundamental challenge of characterizing **anomalous transport** and turbulence in **Hall effect space plasma thrusters**, a long standing problem whose lack of understanding limits the efficiency and durability of current devices. This will be tackled with a **novel plasma diagnostic system** to be developed, combined with **state-of-the-art data-driven analysis techniques** based on modal decompositions, including but not limited to POD, EMD, DMD, and their extensions. Experiments will be carried out with EP2’s Hall thruster prototype in the **large vacuum chamber at UC3M’s Space Propulsion Laboratory**. This is an open call to hire **one researcher at predoctoral level** to address the objectives of the project.

General conditions:

- Base gross salary of 19200€ / year.
- Health care under the Spanish National System.

Specific Requirements:

- Excellent academic record.
- Strong background in the following fields is highly desirable:
 - Linear Algebra, Numerical Methods, and Programming
 - Plasma Physics (in particular, electromagnetic waves in plasmas)
 - Propulsion, Electronics, Plasma diagnostics, and CAD design
 - Experimental work in a laboratory (especially with high vacuum and plasmas)
- Good skills in: team & independent working; critical & creative thinking; initiative & proactiveness; communication of scientific results in English (oral & written)
- Availability to travel abroad (conferences and research internships).
- Meet the admission conditions to an official UC3M PhD Program by March 2020.

How to apply:

Candidates must send their applications by email to mario.merino@uc3m.es and fterragn@ing.uc3m.es **before January 31, 2020**. Applications must include:

- Motivation letter (max. 1 page)
- Curriculum Vitae (max. 6 pages).
- Academic record (i.e. university grades).
- E-mail of at least 2 professional or academic references (the hiring committee will contact them).

Any questions should be directed to Mario Merino and/or Filippo Terragni.
