Research Fellow (PhD) Position for Model Predictive Control in Turbulent Flows

Applications are invited for a PhD student position in the Universidad Carlos III de Madrid (www.uc3m.es), under the supervision of Prof. Andrea Meilán Vila (PhD in Statistics and Operations Research) and Prof. Stefano Discetti (PhD in Aerospace Engineering).

Aims of the project:

- Identify and develop suitable techniques to predict the behavior of turbulent flows with and without control actions (e.g., tools based on autoregressive and parsimonious models applied to coordinates identified with dimensionality-reduction).
- Investigate the capabilities of Model Predictive Control (MPC) to deal with uncertainty.
- Validate the methods using databases of numerical data.

Requirements and desirable profile:

- Young MSc holder (or MSc student with 60 ECTS passed at contract's signature) with background in any of the following disciplines: fluid dynamics, statistics, applied mathematics and scientific computing. Excellent candidates in related disciplines are also invited to apply.
- Outstanding academic record, critical and creative thinking.
- International experience, team-working and communications skills.
- Knowledge of scientific (MATLAB, Python) and statistical programming (R) is a plus.
- Good proficiency in English (oral and written).
- Ability to deal independently and proactively with scientific challenges.

What we offer:

- 3-year contract (with optional 1-year extension); annual gross salary in the 18000-20000€ range.
- Become part of a young, dynamic, highly qualified, collaborative team.
- Flexible working environment and schedule.
- Opportunity to travel to international conferences to present research activities.
- Opportunity to carry out research internships abroad.
- Health coverage under the National Health System.

How to apply:

Interested candidates must send their applications to sdiscett@ing.uc3m.es and andrea.meilan@uc3m.es indicating in the e-mail subject **UC3M-PhD**, including in a single pdf file:

- CV (max. 4 pages), including relevant professional experience and knowledge.
- Copy of diploma and grades from previous university studies.
- A motivation letter of experience, interests, and research goals (max. 1 page).
- The contact information for two references (they will be contacted during the hiring process).

Submission of applications is due by **February 15th, 2022** (though early applications are strongly encouraged, and later applications will be considered until the vacancy is filled). The contract will begin in March/April 2022, though earlier/later start date can be agreed.