

# PHD CONTRACT OFFER:

## Investigating Chiral Matter Using Structured Laser Pulses



### Conditions:

- Place: Instituto de Ciencia de Materiales de Madrid (ICMM), belonging to the Consejo Superior de Investigaciones Científicas (CSIC) of Spain.
- Duration: approximately 3 years, starting in October or November 2024.
- Salary: gross annual salary is about 23800 euros.
- Supervisor: Dr. Laura Rego Cabezas.
- Project: Theoretical/computational doctorate on the study of chirality using structured laser pulses. In particular, our goal will be to use structured ultrashort pulses (carrying phase or polarization spatial structures) to image and control ultrafast phenomena in chiral molecules. For this, we will model the laser-molecule interaction using state-of-the-art computational tools. This will allow us to design a new generation of methods for efficient chiral recognition, and for ultrafast imaging and control of chiral electronic currents, which are ubiquitous, e.g., in chemistry and biology, and occur at the attosecond to femtosecond timescales.

### Requirements:

- Bachelor's and Master's Degrees in Physics, Chemistry, Mathematics or Engineering.

### Desired skills:

- Knowledge in nonlinear optics, atomic/molecular physics, laser physics and/or computational chemistry.
- Good level of English.
- Knowledge and experience in computational modelling.

### How to apply?

Applicants should contact Laura Rego ([laura.rego@imdea.org](mailto:laura.rego@imdea.org)) sending their CV. Interviews will be conducted as part of the selection process.

**Application deadline: 23 May 2024.**

If you would like to know more details about the project or you have any questions, please contact me!  
[laura.rego@imdea.org](mailto:laura.rego@imdea.org)

