



# UNIVERSITAT POLITÈCNICA DE CATALUNYA

## BARCELONATECH

### PROJECT DESCRIPTION

Title: Advanced optical metrology techniques using adaptive optical strategies

#### Project description:

Adaptive optical systems are currently enabling relevant enhancements in classical optical strategies. Microscopes, telescopes and interferometers are increasingly adding new features using active measurement strategies which extend their capabilities and allow novel advances in cutting-edge sciences.

Both a short-term project (one year) and a long term project (directed towards a PhD, 3-4 years) are offered in this approach. The short-term project will involve support to the development of novel control strategies for very large deformable mirrors, including deformable mirror modelling and the development of a novel concept of adaptive telescope. In the long-term project, the student will be the main performer of a novel project for the development of novel imaging techniques.

Students will work at CD6 (<http://www.cd6.upc.edu>) a Centre with renowned experience in technology transfer and scientific development, with 5 spin-off companies created, 4 in the market.

Only top-level students accepted. All applicants are expected to have a degree in Physics or Engineering (Mathematics or Informatics will be considered), knowledge of software development (mainly in MatLab and C++), and ideally of the basics concepts in optics. Expertise in Optical Engineering, optical metrology, optomechanics, or optical design add value to the applicant. Experience in scientific reporting also valued. Please specify in your application the specific projects (if any) you have developed in all the abovementioned fields for which you claim expertise.

A Skype interview with all the students overcoming the preliminary scan will be held. Only successful pre-candidates will be contacted.

### UPC RESEARCHER CONTACT

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### OTHER INFORMATION

Funding: Depending on project and value of student. As an orientation, consider starting salary oscillating among 14K€ and 18K€ per year.

Duration: 1-2 years or 3-4 years depending of interest of student and type of project

Facilities: Incorporation to an international team developing solutions in adaptive optical systems in metrology. Access to up-to-date instrumentation and development in the field. Support in flat finding from mobility office and in-office canteen with 24 hour access. Sports facilities and living in the Barcelona area.