

1<sup>st</sup> call for research positions at the  
Nuclear and Astroparticle Physics Group – Universidad de Zaragoza  
**1 PhD positions + 2 postdoc positions**

**Job description:**

The host group at the University of Zaragoza has a leading role in the International Axion Observatory (IAXO) experiment, whose primary aim is the detection of axions emitted by the Sun. Axions are particles hypothesized to solve the strong-CP problem of the Standard Model of Particle Physics. They are also very motivated candidates to compose the missing Dark Matter of the Universe. IAXO will follow the *axion helioscope* concept, and will search for solar axions with unprecedented sensitivity.

The near-term goal of the collaboration is the construction and operation of BabyIAXO, an intermediate stage to serve as prototype of the final IAXO systems, but already with a relevant physics program in itself. This is the specific goal of the ERC-AdG project *Towards the detection of the axion with the International Axion Observatory (IAXO+)*. The five years duration of the project should encompass the construction, commissioning and first physics results of BabyIAXO.

The positions here offered are intended to reinforce the activities of the Zaragoza group for the preparation of the BabyIAXO experiment, which are focused in the development, preparation and characterization of a new low-background Micromegas-based x-ray detector for the focal point of BabyIAXO. Activity in other areas of the experiment, like software, physics analysis/simulations, or the study of interfaces of detectors with the other experimental systems (x-ray optics or magnet) are also possible. The work will be done in close connection with the rest of members of the IAXO international collaboration, at the moment composed by 17 institutions, including CERN and DESY.

This is the first call for positions of the ERC-AdG IAXO+ project. A second set of positions is foreseen for a later moment of the project.

The group also accepts applications for shorter “introduction to research” studentships, typically for students following, or having just finished, master studies (see independent brochure for explanation).

### Candidates:

We seek excellent and motivated candidates with experimental particle physics background. We will value previous experience in astroparticle physics experiments, as well as interest and expertise in instrumental developments and software knowledge.

The post-doc positions are expected to take important responsibilities in IAXO, manage work packages, supervise the work of students and technicians. For these we will value proof of independence, team work, and presentation skills.

### Positions:

The PhD position is a four-year contracts compatible with standard Unizar pre-doctoral positions. Salary complements are foreseen if the candidate is successful in competitive public pre-doctoral fellowship calls. The candidates will enjoy a lively research environment at Unizar and in the IAXO collaboration. As part of their doctoral period they will have the opportunity to perform stays in other collaborating institutions as well as to attend schools and conferences.

The post-doc positions are two-year Unizar postdoctoral research contracts (N1 level), with salary equivalent to *Ramón y Cajal* senior researcher figure in Spain. A third year extension may be offered to the candidates depending on funding availability. The candidates will count with resources to perform visits and attend conferences and meetings related with their work. They will be allowed to reserve a small fraction of this worktime (about 20%) to develop research topics of their own initiative in relation with wider research portfolio of the host group.

The candidates are expected to engage in central aspects of the IAXO experiment, and for the postdoc position, take important responsibilities, and in doing so enjoy high visibility in the collaboration. They will have the opportunity to lead particular research tasks, and present their work and represent the collaboration in international conferences. In addition, they will have the opportunity to participate in outreach and teaching activities of the department, the latter within the University rules for the involvement of researchers in teaching duties, and always with sufficiently low intensity so that not to endanger the main research activity.

The Universidad de Zaragoza is committed to the “European Charter for Researchers” and the “Code of Conduct for the Recruitment of Researchers”, and has been recognized by the European Commission with the Human Resources Strategy for Researchers (HRS4R) award. <https://hrs4r.unizar.es/en/hrs4r/human-resources-strategy-researchers>

### Application:

Interested candidates should send their CV, a letter of motivation to:

[iaxorecruitment@unizar.es](mailto:iaxorecruitment@unizar.es).

In addition they should arrange for two letters of recommendation to be send to the same address. Candidates to the PhD position should append university grade listing to their CV.

### Deadline:

The starting time of the contracts can be negotiated with the selected candidates and are expected to be fixed for 2019. The selection process is expected to take place by 31<sup>st</sup> January 2019, although candidacies may be accepted after that date, until satisfactory candidates are selected.

### More info:


More details on the research performed in our group can be found here:

<http://gifna.unizar.es/cast/>

<http://gifna.unizar.es/trex/>

Please contact [Igor.Irastorza@cern.ch](mailto:Igor.Irastorza@cern.ch) or [luzon@unizar.es](mailto:luzon@unizar.es) for any addition information.

### Acknowledgement of funding:

 <p>European Research Council Established by the European Commission</p>	<p><b>Project title:</b> “Towards the detection of the axion with the International Axion Observatory (IAXO+)” <b>Ref:</b> ERC Advanced Grant (no 788781) <b>Funding:</b> European Research Council <b>Programme:</b> European Union’s Horizon 2020 research and innovation programme <b>Host institution:</b> Universidad de Zaragoza</p>
---	--