
Post-doctoral position in dark matter search with ultracold atoms

ICFO is offering a postdoctoral position to a well-qualified, highly motivated and dynamic young scientist who wishes to enhance his/her scientific career in a friendly and stimulating environment.

The successful candidate will be joining the Atomic Quantum Optics group led by Prof. Dr. Morgan Mitchell.

Searches for new particles and forces using table-top experiments is an expanding frontier of fundamental physics, which traditionally has relied upon powerful particle colliders, e.g. the LHC at CERN. Axions and axion-like particles (ALPs) are well-motivated dark matter candidates that could solve multiple open problems, including the strong-CP problem in nuclear physics, and anomalous galaxy rotation rates. If they exist, axions and ALPs would mediate a distinctive monopole-dipole force, detectable in principle with atomic magnetometer technologies. Spinor Bose-Einstein condensates (SBECs) are ideal candidates to search for such forces, as they are 1) extraordinarily coherent (coherence times of many seconds), 2) very compact, allowing a SBEC magnetometer to search for short-range monopole-dipole forces that are out of reach of other sensor technologies and 3) very clean, well-understood systems, essential for understanding systematic effects. The successful candidate for this position will join a small team of PhD and post-doctoral researchers working to develop SBECs as detectors of these hypothesized new forces.

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Requirements & Conditions

Candidates must hold an internationally-recognized Ph.D.-equivalent degree (or evidence of its completion in the nearest future) preferably in Physics or closely related fields

The candidate should have a proven track record of experimental atomic, molecular and optical physics. Experience with ultracold gases and/or tabletop searches for new physics is strongly desirable.

ICFO is an equal opportunity employer. Candidates are selected exclusively on merit and potential on the basis of submitted application material. No restrictions related to disabilities, citizenship or gender apply to ICFO positions. ICFO abides by the principles of openness, efficiency, transparency, supportiveness, and international comparability as stated in the European Charter for Researchers and the European Code of Conduct for the Recruitment of Researchers.

Salaries for ICFO Postdoctoral positions are assigned by the Selection Committee, based on experience and seniority of the applicant, as well as the assigned tasks and responsibilities within the group. Standard salaries range from a lower level aligned with national Ramon-y-Cajal fellowships to higher levels aligned with Marie Skłodowska-Curie individual fellowships.

The contract is offered for a period of 1 year.

Additionally, a family allowance is also available on request and after corresponding approval for people with family charges in the terms described in the corresponding policy.

Application process

Suitable candidates are requested to submit:

- Presentation letter with a declaration of interest,
- Curriculum Vitae, including contact details,
- The contact e-mail of two potential referees.

Candidates will be assessed as they apply and the call will remain open until the suitable candidate is identified.

Candidates may contact jobs@icfo.eu for formal enquiries regarding the application, as well as address scientific enquiries to morgan.mitchell@icfo.eu

For update information about the hosting group, please visit https://www.icfo.eu/lang/research/groups/groups-details?group_id=20

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Deadline

Until positions are filled.