

Research positions (PhD-studies and Postdoctoral level) in

Quantum Gauge Theories and Ultracold Atoms

The *ICFO-Institut de Ciències Fotòniques* is a centre based in Barcelona, devoted to the research and education of the optical and photonic sciences, at the highest international level.

ICFO is currently offering 2 postdoctoral and 3 PhD-studies positions to well-qualified, highly motivated and dynamic young scientists who wish to enhance their scientific career in the field of Theoretical Quantum Physics.

The successful candidates will be working in the group of Prof. Maciej Lewenstein, within the framework of the European Research Council Advanced Grant on Quantum Gauge Theories and Ultracold Atoms. The project concerns four areas of physics: physics of ultracold atoms and molecules and quantum information on one side, and quantum field theories used in high energy and condensed matter physics on the other. Ultracold gases in optical lattices can serve as ‘special purpose quantum computers’ – quantum simulators of various condensed matter systems. The present project goes even further and considers possible connections and maybe applications of ultracold atoms for problems relevant to high energy physics and quantum gauge theories, in particular non-Abelian ones. The challenges and hard-to-simulate problems of high energy and condensed matter physics provide main motivation for this project. The candidates are expected to have interest in such interdisciplinary research.

The project starts in January 2009.

Eligibility

Candidates for a PhD-studies position must hold an internationally-recognized Master-equivalent degree in a field of science related to Theoretical Physics and Quantum Optics. Very exceptionally, outstanding candidates holding an internationally-recognized Bachelor-equivalent degree might be considered, too. No restrictions of citizenship apply to the ICFO fellowships.

Candidates for a postdoctoral research position must hold an internationally-recognized PhD (or evidence of its completion in the near future), in a field related to Theoretical Physics and Quantum Optics.

In particular, experience in theory of gauge fields in high energy physics, or condensed matter will be welcomed.

Conditions

The positions are offered for periods of 1 year, renewable prior positive annual evaluation by the supervising Group Leader, Prof. Maciej Lewenstein.

Application procedure

Please, note that interested candidates should send a brief request by e-mail to Prof Maciej Lewenstein (maciej.lewenstein@icfo.es), before applying officially to the vacancies according to the procedure detailed in the following.

ICFO – The Institute of Photonic Sciences

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Suitable candidates are requested to submit:

- A presentation letter with a declaration of interest,
- A Curriculum Vitae, including full address, a contact phone number and e-mail address,
- Scanned copies of your academic transcripts (PhD-studies candidates) and degrees (PhD-studies and postdoctoral candidates)
- The contact e-mail of three potential referees.

Applications should be submitted by e-mail to: icfojobs@icfo.es. E-mail submissions must include the mailing label “QUAGATUA” and your last name printed before the label.

Applications can also be submitted by post to the Screening Committee (Ref. QUAGATUA).

Candidates should be willing to be contacted by phone during the selection process.

Deadlines

The call will remain open until suitable candidates are identified.

For updated information about ICFO, please visit <http://www.icfo.es/>

Informal enquiries to either: maciej.lewenstein@icfo.es