



## [PhD-Student position in novel optoelectronic applications exploiting intersubband transitions in colloidal quantum dots](#)

The **Functional Optoelectronic NanoMaterials** group at ICFO, led by ICREA Prof. Gerasimos Konstantatos, is looking to hire a highly motivated and talented Ph.D. to develop novel optoelectronic applications exploiting intersubband transitions in colloidal quantum dots as a novel platform for infrared optoelectronics.

The **student will develop novel optoelectronic devices for infrared detectors and emitters** employing heavily doped quantum dots within a quantum confined energetic landscape. This situation allows reaching optoelectronic materials with extraordinary optical and electronic properties and the student's mission is to explore this novel landscape and develop novel devices for light emission or photodetection based on intraband transitions. The successful implementation of this project will lead to a new generation of infrared photodetectors, light emitters and energy harvesting devices for photons with energies in the mid and long wave infrared, for which current technologies strive to reach.

By means of this opening, we are looking for highly motivated candidates who wish to enhance their scientific career in the field of Functional Optoelectronic Nanomaterials, and obtain a doctoral degree in the field of Quantum Dot Optoelectronics.

For further information about the Functional Optoelectronic NanoMaterials research group, please see [https://icfo.eu/research/groups-details?group\\_id=30](https://icfo.eu/research/groups-details?group_id=30), or contact Prof. Dr. Gerasimos Konstantatos ([gerasimos.konstantatos@icfo.eu](mailto:gerasimos.konstantatos@icfo.eu)).

### **Requirements and conditions**

Candidates must hold an **internationally-recognized Master-equivalent degree** (or evidence of its completion in the nearest future), preferably in **Applied Physics**, or **Electrical Engineering**.

The candidate should have a proven record of accomplishment of academic excellence, ideally with backgrounds in optoelectronics and physics of semiconductor devices.

Demonstrable experience in optoelectronic characterization and device fabrication is highly desired. In particular, skills related to setting-up optical and optoelectronic setups (including knowledge of Labview or similar) and/or micro/nanofabrication skills (including photolithography, laser writing, e-beam lithography) will be positively evaluated.

Selection is based on merit and potential, measured in terms of the academic record and personal achievements. Academic excellence is a must. Pro-activity, participation in community activities, and capacity for teamwork are also taken into account.

No restrictions of citizenship apply to the ICFO positions. Female graduate students are encouraged to apply.

PhD fellowships are given for periods of one year, renewable for a total of up to four years. The renewal is subject to satisfactory performance in the PhD studies and related research activities, evaluated annually by the Thesis Director and the ICFO PhD Committee.

## **Application procedure**

To apply, suitable candidates are requested to submit (in English) the following material via our General PhD-Call, for the ICFO International PhD Program (Spring 2018), available at <http://jobs.icfo.eu/index.php?detail=349>.

Suitable candidates are requested to submit:

- A Cover Letter with declaration of research interests, emphasizing the interest in this specific project under supervision of Prof. Dr. Gerasimos Konstantatos (Ref. Intraband)
- A Curriculum Vitae, including contact details.
- Scanned copies of the complete (Bachelor and Master equivalent) and official academic transcripts in English or Spanish.
- Scanned copies of the degree certificates, if available at the time of application.
- Via the online application form, the candidate should indicate two referees, who we will contact for their reference letters if necessary.
- If available, scanned copy of standardized test results (GRE, TOEFL, etc.). Note that submission of test results is optional, but they can be particularly helpful for evaluating candidates with degrees obtained outside the European Higher Education Area.

Candidates are invited to additionally submit a copy of the application material (in one single pdf-file) to Prof. Gerasimos Konstantatos at [gerasimos.konstantatos@icfo.eu](mailto:gerasimos.konstantatos@icfo.eu).

All required application material must be complete and **submitted by February 25, 2018**, in order for the application to be considered.

Please, see our General Call for further details on the selection process, and timelines.

Candidates may contact [jobs@icfo.eu](mailto:jobs@icfo.eu) for informal enquiries regarding the application, as well as address scientific enquiries to [gerasimos.konstantatos@icfo.eu](mailto:gerasimos.konstantatos@icfo.eu).