

# Ph. D. GRANT OFFER

The **Radiation Detectors Group** at the **Microelectronics National Center (IMB-CNM)** located in Barcelona, Spain, is looking for a candidate to join our group to realize a **Ph. D. in Physics** to work on *Adaptative Computation Techniques in Proton therapy*.

The main research activity is the development of **innovative GPU-based calculation algorithms and advanced machine learning-based analytics** to develop an **on-the-flight LET-painting tool**. It will be complemented **with experimental microdosimeters** that have already demonstrated their feasibility in clinical fluence rates [1,2]. The overall goal is to pave the way to their clinical implementation in proton therapy. The candidate will also be trained in experimental tasks related to radiation detector characterization and microdosimetry tests in proton therapy centers.

The IMB-CNM is situated on the campus of the Autonomous University (UAB) and the largest public microelectronics center in Spain with one of the largest Clean-Room facilities for researching in Southern Europe. It has full capability to process its own CMOS technologies as well as photon/particle detectors.

The selected candidate is expected to travel for short periods for testing campaigns and presentation at international conferences. All the work will be done in the framework of the CSIC *Proyectos Intramurales Especiales* associated to a Ramón y Cajal grant.

**TERM OF APPOINTMENT:** 3 years.

**TO APPLY:** Applications are accepted contacting directly by email: **Dr. Consuelo Guardiola** (consuelo.guardiola@imb-cnm.csic.es) and **Dr. Paula Ibañez** (pbibanez@ucm.es), and must include a curriculum vitae and a confidential letter of reference<sup>1</sup>. Candidates must be EU citizens or hold a valid Working (Employment) Schengen Visa.

Documents/materials must be submitted as PDF files.

Selected candidates will be contacted by July 2022.

**POSITION AVAILABLE:** Expected start date November 2022 or before depending on the candidate qualifications at the interview moment.

**BASIC QUALIFICATIONS:** Master in Physics, Medical Physics, Nuclear Physics, or related field.

More information on CNM activities at: <http://www.imb-cnm.csic.es/>

[1] Prieto-Pena J. et al., IEEE Transactions on Nuclear Science, Vol. 66, No. 7, July 2019

[2] Guardiola C. et al., Phys Med Biol. 2021;66(11):10.1088/1361-6560/abf811



<sup>1</sup> All letters will be treated as confidential.