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Subject: Portail Emploi CNRS - Job offer - H/F Postdoc position in Novel bio-inspiring microsensors for improving protontherapy treatments
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To:



<https://emploi.cnrs.fr/Offres/CDD/UMR8165-CONGUA-001/Default.aspx?lang=EN>

H/F Postdoc position in Novel bio-inspiring microsensors for improving protontherapy treatments

Faites connaître cette offre !

General information

Reference : UMR8165-CONGUA-001
Workplace : ORSAY
Date of publication : Friday, April 26, 2019
Type of Contract : FTC Scientist
Contract Period : 24 months
Expected date of employment : 1 October 2019
Proportion of work : Full time
Remuneration : 2695€ bruts (<2 years after PhD) to 3841€ bruts (>=2 and 7< experience years)
Desired level of education : PhD
Experience required : Indifferent

Missions

Protontherapy is a radiotherapy modality that achieves very high dose conformity around the target, allowing a better protection of the organs at risk (decreasing radiation side effect). Nevertheless, to evaluate the consequences of protontherapy treatments accurately, instruments to quantify the LET or RBE distributions are needed. This is the challenging where our project is focus on: we will incorporate novel devices in clinical facilities that are based on bio-inspiring microsensors.

We are looking for a postdoc for a 2 years position, starting from October 2019, that will work in the IMNC lab. (Campus d'Orsay, 25 km from Paris). The candidate will be involved in the development of both microdosimetry measurements in protontherapy and data analysis. Furthermore, the postdoc will work actively in the development of a customized graphical interface for treatment plan optimization.

Activities

- Microdosimetry tests in protontherapy with silicon microdetectors
- Data analysis of experimental results
- Performing a communication programming between readout electronic outputs and a graphical user interface for further data analysis.

Skills

- PhD in physics, computational modelling, or medical physics. Alternatively, PhD with experience in radiation physics, particle/nuclear experimental physics, or radiation silicon detectors will also be considered.
- Knowledge of C++ and Python programming and excellent knowledge of one of them
- Experience in basic data processing with ROOT or Matlab is needed.
- Experience in basic readout electronics would be appreciated.

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- Experience in proton/hadron therapy or radiation detectors are valued.

Work Context

The postdoc will develop the work in the framework of a CNRS-Momentum grant, whose objective is to create a medical instrument towards radiobiologically optimized cancer treatments. Postdoc will work in direct and close collaboration with another researcher of the New Approaches for Radiotherapy group at IMNC-CNRS. In this research group we work in the boundary between medical physics, computer science (Monte Carlo simulations), and radiobiology.

IMNC is an interdisciplinary laboratory that joins physicists and biologists, where the candidate will benefit from the multidisciplinary expertise of many lab's members. Additionally, IMNC houses a computational facility and two informaticians to assist the candidate with the computational aspects and giving support in the communication programming task. We will also have access to a particle detector lab with complete electronic instruments.

The work will be performed in collaboration with the Radiation Detector Group (RDG) of the National Center of Microelectronics (IMB-CNM) in Barcelona for optimizing new microdosimeter designs.

Constraints and risks

- Radioprotection.
- Participation in international congress and work travels

Additional Information

Please send your CV and motivation letter through the CNRS recruitment system

We talk about it on Twitter!