

Diamond Sensors Laboratory, CEA-LIST, Gif-sur-Yvette, France is seeking:

Postdoctoral Scientist

Diamond Sensor Laboratory, CEA-LIST and DIADEM collaboration

The Diamond Sensors Laboratory of CEA-LIST has twenty years of experience in diamond material synthesis including R&D on diamond based sensors and radiation detection devices. The INSERM funded (2018-2020) DIADEM collaboration proposes to develop a new tissue-equivalent diamond based microdosimeter with associated electronics, to obtain precise measurements of lineal energy distributions in hadron therapy clinical conditions with high rates and high spatial resolution. Interdisciplinary experimental techniques, such as nano- and microfabrication, device characterization under ion nuclear microprobes micro-electronics and electronic developments are going to be employed for diamond micro-dosimeter prototyping. The performance of final prototypes will be evaluated with clinical hadron beams leading to first step for the implementation in radiobiological numerical models.

The position:

- MC simulations of clinical proton/carbon beams interactions with matter, to benchmark experimental response of the microdosimeter prototypes
- participation in beamtimes for devices testing with clinical beams and particle microbeams at accelerator facilities
- possible participation in fabrication process of the devices (surfaces preparation, thin layer deposition, photolithography, dry plasma etching)

Requirements:

- PhD in physics/medical physics or equivalent
- knowledge of relevant Monte Carlo simulation programs
- knowledge of solid-state particle detectors, associated electronics and signal processing, possibly including some experience at accelerator facilities
- communication verbally and written in English (French would be additional asset)
- knowledge of simple printed circuit boards design and semiconductors simulation software would be an asset

Conditions:

A one year PostDoctoral contract starting preferably from March-April 2019. Salary and benefits are commensurate with those of CEA organization. Classification is based upon candidate's qualification and assigned duties.

Applications (CV + motivation letter [Linkedin, Researchgate, other electronic profiles are welcome]) and **further information** please contact:

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