



Postdoctoral position in preclinical radiotherapy

The Experimental Imaging Centre of the San Raffaele Scientific Institute in Milan is searching for a highly motivated postdoc for a research project focused on preclinical radiotherapy coupled with hyperthermia.

Project overview

The main goal of external beam radiotherapy (EBRT) is to damage all cancer cells in a tumour to stop any proliferation mechanism. Unfortunately, normal tissue toxicity can severely limit dose escalation and, thus, it is useful to combine EBRT with other treatments.

An interesting approach to improve local tumour control is the combination of EBRT with hyperthermia induced by High Intensity Focused Ultrasound (HIFU). The cell sensitizer mechanism induced by the heat is not completely understood, however evidence suggests that the cellular DNA repair mechanism is altered and thus the radiation damage is more difficult to repair.

During hyperthermia treatment the generated temperature distribution is crucial. One of the main goals in radiotherapy coupled with hyperthermia is therefore to improve the efficacy, safety and range of applicability of clinical HIFU treatments by providing validated methods for ultrasonic field characterization.

The main contributions of the postdoc will focus on performing phantom and preclinical in vivo experiments and data analysis.

Key skills and experience of the ideal candidate:

- The position requires a Ph.D. preferentially in medical physics
- Knowledge of preclinical radiotherapy
- Knowledge of ultrasounds would be a plus
- Willingness to work in a multidisciplinary environment
- A good knowledge in spoken and written English

For more information please contact:

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Web sites:

<https://rachy-project.eu/>

<http://research.hsr.it/en/centers/experimental-imaging-center/cerenkov-and-radioluminescence-imaging.html>