



**University of  
Zurich** <sup>UZH</sup>



## **Post-Doc position at the University of Zurich – Medical Physics and Radiation Research**

We are seeking for a physics Post-Doc to work on the European project HARMONIC: HEALTH EFFECTS OF CARDIAC FLUOROSCOPY AND MODERN RADIOTHERAPY IN PAEDIATRICS

### Description

The treatment of a first primary cancer with radiation can cause the induction of a second primary cancer, an unwanted, detrimental side-effect of the radiation exposure. Research on secondary cancer risk is becoming more important as radiotherapy cure rates for primary cancers increase. In particular in paediatric patients the induction of a second malignancies is a major problem. UZH is one of 23 partners who participate in the EU funded HARMONIC project which aims to quantify the health effects of modern radiotherapy in paediatric patients. The main objective is to estimate individual radiation doses delivered to the organs of interest in epidemiological and biological analyses.

### Goal

The specific objective of this project is to study the whole body absorbed dose distribution, with emphasis on organs-at-risk. We are aiming at developing an approach to quantify the out-of-field dose, and hence enable futures studies to optimize the out of field dose and dose delivered during imaging procedures. The scope of this task is to calculate the whole body dose distribution including the dose delivered to organs-at-risk for all radiotherapy patients, so as to complement and extend the calculations performed by the treatment planning system. The study will cover proton therapy and external beam conventional radiotherapy. The computation of the out-of-field doses will be achieved with analytical models. To that end, a whole-body representation shall be created automatically by matching the patient structures acquired for treatment planning through imaging with a computational human phantom.

We are particularly looking for candidates with a PhD in physics. Ideally, the candidates will also have a basic understanding of computational methods in radiation therapy and Monte Carlo simulations of radiation. Oral and written English language skills are mandatory. German language skills are not required, but of advantage.

Please send your complete application electronically to Prof. Uwe Schneider. We request a letter of motivation, and your CV plus transcripts of BSc, MSc and PhD grades or equivalent.

### Contact Details

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