

Interdisciplinary PhD position in Space sciences and Radiotherapy

The research group “Medical Physics and Radiation Research” at the University of Zurich (Switzerland) invite applications for a PhD position for detector development in space sciences and radiotherapy. The successful candidate will be at the Hirslanden Clinic Zurich and UZH. The PhD project is in collaboration with the Paul Scherrer Institute and the Cyclotron Centre Bronowice in Krakow.

The PhD project will focus on developing novel instrumentation that will be employed in cancer radiotherapy and for future space missions. The project entails the conception, building and validation of a compact nanodosimeter able to measure the ionization-cluster-size distributions of beams of ionizing radiation of different qualities. The measured cluster-size distributions have shown great promise for characterizing the biological effects of ionizing radiation. The initial implementations are foreseen on the proton beam line at the Paul Scherrer Institute. The successful candidate will be involved in the design, operation and scientific exploitation of this new device.

The successful candidate will join an interdisciplinary team with expertise spanning cancer research, radiotherapy, computer science as well as space radiation research and detector development. The new group member will be involved in the intellectual life of the three interdisciplinary centers and benefit from the existing synergies.

Profile

We are looking for a creative and motivated candidate with a strong interest in instrumentation. A MSc degree in physics or engineering is required. Expertise in numerical modelling and Monte Carlo simulations is an asset but not mandatory. Oral and written skills in English are a requirement.

What we offer

The position will be based at two locations: the Group of Medical Physics and Radiation Research at UZH, which investigates new instrumentation for cancer research, and the Centre for proton therapy, which develops new radiotherapy technologies to address unmet clinical needs. The city of Zurich is well known for its quality of life, cultural richness and beautiful surroundings offering plenty of opportunities for activities. The position is funded for 4 years. The annual salary is competitive and there is ample funding for travel, publications and computing resources.

Application

Please address queries about the position to Prof. Dr. Uwe Schneider (uwe.schneider@uzh.ch). Applications are invited from all nationalities and should consist of 1) a 1-page cover letter detailing your interest in joining the group and in the PhD topic, 2) a CV, 3) transcripts of your grades of courses obtained during your bachelor's and master's degrees, as well as 4) contact details for two references to whom recommendation letters will be requested for shortlisted candidates. Application materials should be submitted in a single PDF file. The review of the applications will start in January 2026 and will continue until the position is filled. The expected start date is May 1st 2026, or upon agreement.