

The Paul Scherrer Institute PSI is the largest research institute for natural and engineering sciences within Switzerland. We perform cutting-edge research in the fields of future technologies, energy and climate, health innovation and fundamentals of nature. By performing fundamental and applied research, we work on sustainable solutions for major challenges facing society, science and economy. PSI is committed to the training of future generations. Therefore, about one quarter of our staff are post-docs, post-graduates or apprentices. Altogether, PSI employs 2300 people.

The Center for Proton Therapy at PSI has been treating cancer patients with protons since 1984 and is a leading center in this innovative treatment modality worldwide.

For the Center for Proton Therapy, we are looking for a

PhD Student in proton therapy research

16.01.2026 • Doctoral • 1714-23358 • 100% 

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Your tasks

Proton therapy is a promising radiotherapy modality for cancer patients. A key research area for personalized treatment definition and evaluation is the prediction of the biological effects of protons compared to conventional radiotherapy. As such, nano-dosimetric quantities, which serve as a direct representation of DNA cell damage, have been proposed as a new approach to predict the biological effectiveness of proton therapy.

The goal of this PhD project is to develop the mathematical framework to include these parameters in the optimization of proton therapy treatments, and to apply this framework to investigate the influence of different proton therapy treatment delivery modalities.

This position is part of a collaborative project between multiple partner organisations, including the University of Zurich and the Cyclotron Centre Bronowice in Krakow.

You will be registered as a PhD student at the ETH Zurich.

Your profile

- Master's degree in physics, mathematics, engineering or other natural sciences
- Fluent in English (written and spoken)
- Interest in research in the field of proton therapy
- Interest in mathematical modelling and programming

We offer

Our institution is based on an interdisciplinary, innovative and dynamic collaboration. You will profit from a systematic training on the job, in addition to personal development possibilities and our pronounced vocational training culture. If you wish to optimally combine work and family life or other personal interests, we are able to support you with our modern employment conditions and the on-site infrastructure.

For further information, please contact Prof. Dr Antony John Lomax, phone +41 56 310 53 68.

Please submit your application online by **15 March 2026** including addresses of referees) for the position as a PhD Student (Index-Nr. 1714-23358).