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 Electron Beam Instrumentation Group develops instruments that measure the properties of electron beams. PSI is a member of EuPRAXIA, a project to build a free electron laser based on a plasma accelerator, and of PACRI, a collaborative effort to design and test components for high-repetition rate plasma accelerators. We are engaged in beam instrumentation for these projects.

For the Electron Beam Instrumentation Group, we are looking for a

Postdoctoral Fellow in plasma-based free electron lasers

04.12.2025 • Postdoctoral • 8123-25147 • 100%

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Your tasks

- You will design and develop instrumentation for characterizing and optimizing plasma-driven free electron lasers, including diagnostics for beam quality, electron beam parameters, and radiation characteristics
- You will model the physical processes, and conduct experimental work at SwissFEL, and at our partners of the EuPRAXIA consortium
- You will analyse experimental data and simulation results to validate theoretical models and identify areas for improvement
- You will work with our international partners to advance the development of plasma-based free electron lasers
- You will present your research results at international conferences and workshops
- You will write manuscripts and contribute to publications in scientific journals

Your profile

- We are seeking a highly qualified individual with a PhD degree in Physics or a related field, ideally with a background in free electron lasers or plasma physics
- Additional expertise in instrumentation and diagnostics would be a significant asset
- As a skilled researcher, you possess strong data analysis capabilities, with a proven track record of publishing your research in scientific journals
- Your self-motivated nature enables you to drive projects forward
- Your excellent leadership skills inspire and motivate others to achieve their best
- In our collaborative and dynamic environment, the ability to work effectively with international partners is essential
- As an open-minded and adaptable individual, you thrive in a multicultural setting, fostering strong relationships with colleagues and partners from diverse backgrounds

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.

Your employment contract is limited to 2 years.

For further information, please contact Dr Rasmus Ischebeck, e-mail rasmus.ischebeck@psi.ch.

Please submit your application online by **31 December 2025** (including list of publications and addresses of referees) for the position as a Postdoctoral Fellow (Index-Nr. 8123-25147).

Paul Scherrer Institute, Human Resources Management, Pascale Bärtschi, 5232 Villigen PSI, Switzerland