PAUL SCHERRER INSTITUT

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 matter and materials, energy and environment and human health. 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 2100 people.

The group 'Timing and Synchronization' is responsible for the generation and distribution of reference signals for the X-Ray free-electron laser SwissFEL, including laser synchronization, arrival-time monitors, delivery of stable reference signals to the RF-stations, and various diagnostics systems.

The experimental lasers, the bunch arrival-time and the laser arrival-time monitors have the highest stability requirements in the femtosecond and sub-femtosecond range. To reach such stability in terms of drift and jitter, the pulses of a mode-locked laser oscillator are distributed via polarization maintaining optical fibers. These fiber optical links are stabilized based on a balanced optical cross-correlation measurement.

For the Large Research Facilities Division we are looking for a

Trainee

Construction and test of length-stabilized pulsed fiber optical links

Your tasks

We are offering a traineeship position in which you will work on selected aspects of the construction and evaluation of a prototype of a pulsed fiber optical link. The work includes implementation of the available concepts, test of different non-linear crystals, dispersion compensation, in-loop and out of loop stability measurements.

Your profile

- You study physics or electrical-engineering (minimum 4 semesters)
- You have an interest in fiber and nonlinear optics
- You are enthusiastic to gain practical experience with optical fibers, splicing, dispersion compensation, construction, and adjustment of free-space balanced optical cross-correlators, data acquisition and evaluation
- You are open-minded, communicative and enjoy working in an international team
- You have not yet completed your Master’s thesis

We offer

Our institution is based on an interdisciplinary, innovative and dynamic collaboration.

The contract will be limited to 3 months.

For further information, please contact Dr Vladimir Arsov, phone +41 56 310 59 56.

Please submit your application online for the position as a Trainee (index no. 8232-T1).

Paul Scherrer Institut Human Resources Management, Patrizia Meister, 5232 Villigen PSI, Switzerland

Apply online now