



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.

For Advanced Nuclear Systems group (<http://www.psi.ch/fast>) we are looking for a

PhD student

Experimental and analytical study of condensation and chugging conditions in water and sodium

Your tasks

- Conduct experiments on steam injection in the subcooled water at CHUG facility to study condensation and chugging conditions.
- Conduct numerical modeling of the experiments using Direct Numerical Simulation and Computational Fluid Dynamics codes (PSI-BOIL and NEPTUNE).
- Derive correlations for studied phenomena and implement them in system codes (TRACE and CATHARE).
- Explore how the experimental and calculational results obtained for steam-water can be used for modeling of two-phase sodium flow in Generation-IV Sodium Fast Reactor.
- Publish results in peer-reviewed journals and conference proceedings, and write a PhD thesis on the topic.

Your profile

- You have MS degree in mechanical or nuclear engineering.
- You have experience in CFD applications and in experimental work related to thermal hydraulics.
- You are interested in Generation-IV nuclear systems.
- You speak and write English professionally, it is advantageous if you speak French (the third year of PhD will be at CEA France).

Salary

CHF 50800 for the first year; CHF 54400 for the second year and CHF 58000 for the third and fourth years.

Contact

If you are interested and ready to start in 2019, please send your motivation letter and CV to Dr. Konstantin Mikityuk (konstantin.mikityuk@psi.ch).