

Partner Institute Profile: The Paul Scherrer Institute – PSI



Birds-eye view of the Paul Scherrer Institute, located alongside the Aare River in Switzerland

The Paul Scherrer Institute (PSI) was founded in 1988 and is the largest research institute for natural and engineering sciences within Switzerland, with a staff of 1900 people. As a federal research centre, the organisation has an annual budget of approximately CHF 380 million and is primarily funded by the Swiss Confederation.

In BrightnESS, PSI is involved in Work Package 5, Real-Time Management of ESS Data. More specifically, the Institute will contribute to the development of software that will aggregate and make available the neutron event data and sample meta-data in the project. PSI is also a part of the collaboration, communication and dissemination of BrightnESS, which is part of WP6.

Science and technology at PSI

The research at PSI revolves around three main subject areas: Energy and the Environment, Human Health and Matter and Material. The PSI materials researchers want to understand the relationship between the internal construction and the observable properties of materials as well as answering fundamental questions concerning the basic structure of a material.

Besides its smaller laboratories, PSI operates a number of large-scale research facilities. The Laboratory for Neutron Scattering and Imaging (LNS) is responsible for the scientific exploitation, operation and development of neutron scattering and imaging instruments at the Swiss Spallation Neutron Source (SINQ). SINQ uses neutrons to examine new materials and consists of a powerful 1 MW spallation neutron source, state-of-the-art instruments for research using neutron spectroscopy, diffraction, small angle scattering, reflectometry and imaging, and of advanced sample environment. As a center of competence in neutron scattering technology in Switzerland, the LNS contributes to the design of ESS.



The spallation neutron source SINQ is a continuous source - the first of its kind and most powerful in the world - with a flux of about 10^{14} n/cm²/s.

A wide-ranging ESS partner organisation

The European Spallation Source collaborates with PSI on Neutron Scattering Systems, covering neutron instruments, neutron technology, sample environment, and support facilities. PSI is an In-kind partner and a Lead Partner on two of the ESS instruments; the ESTIA focusing reflectometer and the ODIN multi-purpose imaging.