Name of the organization
Paul Scherrer Institut (PSI)

Name of the infrastructure / laboratory
SINQ, imaging stations NEUTRA and ICON / Electrochemistry Laboratory (ECL) and Neutron Imaging and Activation Group (NIAG)

Address and country of the infrastructure / laboratory
Paul Scherrer Institut (PSI), 5232 Villigen PSI, Switzerland

Person responsible of the access / Contact person
Pierre Boillat, Electrochemistry Laboratory

Phone / Fax / Web / Email
+41 56 310 2743 / +41 56 310 4415 / http://ecl.web.psi.ch / pierre.boillat@psi.ch

Main field of activity of the infrastructure / laboratory
- *Stationary and Fuel Cells for Power and Heat Generation*

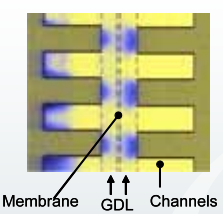
Short description of the infrastructure / laboratory
The 2 imaging beam lines at the SINQ spallation source of PSI provide state-of-the-art neutron imaging including advanced detector technology. Imaging is performed with thermal neutrons (NEUTRA beam line) or cold neutrons (ICON beam line). The PSI Electrochemistry Laboratory (ECL) and the PSI Neutron Imaging and Activation Group (NIAG) have developed in situ neutron imaging of liquid water in operating fuel cells in close collaboration over the past ten years. Such developments included the creation of detectors with anisotropic resolution enhancement, specifically targeted for the cross sectional imaging of fuel cells.

Main research area(s) of the infrastructure / laboratory
PSI Electrochemistry Laboratory (ECL): Research on materials, system aspects and characterization technologies in the field of electrochemical energy storage and conversion (e.g. fuel cells, batteries). Neutron Imaging and Activation Group (NIAG): Research on neutron imaging technology and its application to different research fields (e.g. material science, energy research, archeology).

Instruments and tools available for the above mentioned research
NEUTRA and ICON neutron imaging beam lines / Wide range of detector options
Mobile fuel cell test bench for experiments in the beam lines / For specific projects: ECL setup for simultaneous imaging of 6 fuel cells

The neutron spallation source SINQ at PSI

The neutron imaging beam line ICON



High resolution imaging of water distribution in an operating PEFC (false color representation)

The ECL setup for simultaneous operation and imaging of 6 fuel cells, in the ICON beam line