

Editorial

International Workshop for Sample Environment at Scattering Facilities

Organized and hosted by the HZB

Seminaris SeeHotel, Potsdam (Germany)

2–7 September 2018

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The 10th edition of the workshop, which was also the 3rd to be organised under the auspices of the International Society for Sample Environment (ISSE) [1], took place in Potsdam and in Berlin where the first workshop of this kind was held in 1999, initiated by Michael Meissner [3]. A record attendance was reached with 126 participants coming from 13 countries and 4 continents.

This edition has also been the first to gather neutron and x-ray synchrotron communities. In addition to 16 neutron sources, 10 photon sources were also represented. An entire day was dedicated to Sample Environment at photon sources with talks, very lively discussions and a tour through the beamline instruments of BESSY II. While x-ray technical requirements can be somewhat different from those encountered with neutrons, there are many aspects which can be shared and where common solutions can be adopted.

The first obvious example is SECoP [2], the Sample Environment Communication Protocol developed within the frame of the SINE2020 European project [4] in close collaboration with a working group of the ISSE. SECoP is going to facilitate the integration of sample environment equipment into the control software of beamlines at scattering facilities. A complete description of the version 1.00 β was discussed during the workshop and most scattering facilities and industrial partners have announced that they will adopt it to ease the deployment of novel sample environments.

The following pages present the huge progress made in Asia at the China Spallation Neutron Source and at the Material and Life Science Facility of J-PARC. They now provide a diverse range of sample environments to users: cryostats, furnaces, pressure cells, high-field magnets, etc. Obviously, the ISSE workshops and schools have contributed very much to this progress. The next pages present solutions for controlling fast and large temperature jumps above 100 K, for building an ultra-low background cryomagnet and for controlling the humidity with unprecedented precision.

During the workshop, many other interesting projects were discussed and presented. I look forward to reading their publications in JNR in a near future.



Fig. 1. Neutron and x-ray participants of the ISSE workshop gathered at Potsdam. 16 neutron sources, 10 photon sources and several industrial partners were represented.

References

- [1] <https://sampleenvironment.org>.
- [2] <https://github.com/SampleEnvironment/SECoP>.
- [3] E. Lelièvre-Berna, *Journal of Neutron Research* **19** (2017), 1–3. doi:[10.3233/JNR-170035](https://doi.org/10.3233/JNR-170035).
- [4] SINE2020, world-class Science and Innovation with Neutrons in Europe in 2020, is a consortium of 18 partner institutions from 12 countries. This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 654000. <https://www.sine2020.eu>.

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