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The neutron instrumentation sessions showed considerable progress in the technical developments at nearly all the major neutron facilities in Europe, but also specifically at J-PARC, Oakridge, ANSTO, NIST, and the NRC in Algeria. These sessions demonstrate that the rather broad range of science that is covered by neutron scattering can still be expanded over the whole range of materials science if measurements can be done faster, with better resolution, and under more extreme sample conditions.

The next big thing to happen in Europe is the realization of the ESS and its completely new instrument park. The ESS team in Lund takes the challenge of the design project to a new level, combining the optimization of the source, moderators, choppers, and optics up to the detectors in an integrated approach. The developments of the *first wave* of ESS instruments for imaging (ODIN), small-angle scattering (LOKI), and macromolecular diffraction (NMX) was addressed, but at the same time the *next wave* of instruments were presented. The "integrated approach" is also taken in the way the scientific users will be received at the ESS by collecting sample-environment, deuteration, software and a user-office in a Science Support System. The choices that are made for the whole scientific infrastructure at the ESS are partially based on the experiences gathered at the other major facilities over the last decades, but now they need to be integrated and executed successfully in one go.

Besides their contributions to the ESS, practically all neutron sources have presented considerable progress in the performance of their own instrumentation too. The gain factors in terms of neutron flux, resolution and sample conditions many times reach an order of magnitude and sometimes enable completely new fields of science to be explored with neutron scattering. Smaller samples can now be studied due to focusing optics, even integrated in the sample environment, and the samples are illuminated by multiple beams simultaneously, or sequentially using pulse repetition multiplication. Neutron detectors have been developed that can cope with the subsequent higher count rates and higher spatial resolution, needed for imaging, multi-beam instruments or spatial intensity modulation by Larmor labelling.

For studies of large soft matter systems like protein complexes or self-assembling polymers, users demand more and more that the neutron experiments are complimented with non-neutron probes or stimuli, *in-situ*. The technical challenges this implies to the design relate to the fact that both the instrument and the sample environment(s) need to meet the restrictions set out to transport neutrons efficiently towards the detectors, as well as having the sample accessible to the simultaneous probes. Many new instruments or upgrades therefore focus on flexibility around the sample area of the instrument, smaller neutron beams and stroboscopic techniques, like a microfluidics chip that allows SANS experiments on nano-litre droplets. To control and synchronize these probes and stimuli, and at the same time collect the data, the acquisition and control software must provide the same flexibility without asking the user for programming skill. With so many more options, and neutrons, at the disposal of the users the European instrument park provides an excellent infrastructure for top science.

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