



NEUTRONS
FOR SOCIETY

CELEBRATING THE COMPLETION OF THE ENDURANCE PROGRAMME

WEDNESDAY 27 NOVEMBER 2024

@ Institut Laue-Langevin

Delivering new capabilities for science

For over 50 years, the ILL has been the world's leading facility for neutron science, and has set the gold standard for running a scientific user facility. Following on from the Millennium Programme, the completion of the Endurance Programme marks the conclusion of two decades of continuous investment. Within the last seven years, Endurance has delivered 30 new and upgraded instruments and infrastructures, resulting in a suite of 43 state-of-the-art neutron instruments which is unique in the world.

The completion of Endurance places ILL in the strongest position it has ever been, and sets us up to capitalise on the new capabilities by delivering high-impact science to address the highest priorities in societal challenges for the coming decade. Modernised support instruments and facilities for neutron technology R&D will continue to deliver groundbreaking instrumentation, ensuring that our instrument suite remains at the cutting edge, while benefiting other European neutron facilities.

The Endurance Programme has delivered unprecedented capabilities across a range of techniques such as neutron imaging, neutron polarisation analysis, sample environments, as well as new data treatment software. Our users will use these facilities to make pioneering discoveries in fields such as novel batteries, advanced manufacturing, quantum materials, or the fight against infectious diseases.

Key achievements include the deployment of advanced instruments now in operation: the FIPPS gamma-ray spectrometer, the upgraded IN5 cold-neutron TOF spectrometer, the new PANTHER thermal TOF spectrometer, and the DALI protein crystallography station. Enhancements have also been made to the D3 hot-neutron diffractometer, the IN20 thermal triple-axis spectrometer, and the SANS instruments D11 and D22. The D16 cold-neutron diffractometer has been modernised, and we have constructed the versatile cold-neutron imaging instruments NeXT and MoTo.

The modernisation of these instruments has been supported by renewed in-pile beam extraction (H1-H2), novel neutron guide systems (H24 for thermal, H15 for cold neutrons), and in-house development of critical technologies such as neutron detectors and polarisation components. The H24 guide now supports the upgraded D10+ single-crystal diffractometer, IN13 backscattering instrument, and the new XtremeD powder and single crystal diffractometer. This year, the instruments on the H15 guide system have seen their first neutrons: an improved D007 diffuse scattering instrument, a rebuilt D11+ with enhanced collimation, and new instruments cold-neutron TOF spectrometer SHARPER and SAM, a fourth SANS instrument.

With the completion of the Endurance programme, the ILL has consolidated its position as a world-unique and state-of-the-art facility for neutron science in the decade to come.



ENDURANCE MODERNISATION PROGRAMME

PROGRAMME

13.00 LUNCH (ILL50, room 101)

Oral presentations (ILL50 1st floor seminar room)

14.00	WELCOME ADDRESS	Ken Andersen
14.10	ENDURANCE OVERVIEW	Andreas Meyer
14.30	NeXT	Alessandro Tengattini
14.40	D16	Bruno Demé
14.50	D22	Anne Martel
15.00	PANTHER	Marek Koza
15.10	D10*	Iurii Kibalin
15.20	SuperSUN	Eddy Lelièvre-Berna

15.30 COFFEE BREAK

Poster presentations (Experimental hall ILL7)

16.00	XtremeD + SANE	Stanislas Savvin
16.15	CT2	Bruno Guerard
16.30	FIPPS	Lorenzo Domenichetti
16.45	SHARPER	Jean-Marc Zanotti
17.00	D11 / SANE	Sylvain Prévost / Nina Steinke
17.15	DALI	Matthew Blakeley
17.30	PASTIS/IN20	Mechthild Enderle / Martin Boehm

Wrap up (ILL4 Entrance hall)

17.45 CONCLUSION Jacques Jestin

18.00 END OF EVENT

19.30 DINNER at *Maison Fantin Latour - 1 rue Général de Beylié - 38000 Grenoble*

