

## ILL in focus

During the Spring 2026 proposals round, a total of 575 experimental proposals were submitted, of which 429 were accepted, representing approximately 1715 allocated days. These experiments will be scheduled during the second half of 2026.

The first cycle of 2026 has just concluded: 745 distinct users from 36 countries came to the ILL. Overall, a total of 513 experiments were carried out during the cycle.

The ILL has recently resumed regular operations with three cycles per year, providing approximately 170 days of neutron beam time across its full suite of 40 instruments.

## User Programme Calendar

**15 September** | Standard Proposals Deadline  
[DDT](#) and [EASY](#) proposals: open year-round

**3 - 4 November** | Subcommittees Meeting (ILL)  
**5 - 6 November** | Scientific Council Meeting (ILL)

**18 - 20 November** | ESS - ILL User Meeting (Lund)

[Check 2026 Reactor Cycle Dates](#)

## Key steps forward in the implementation of the ILL Science Strategy

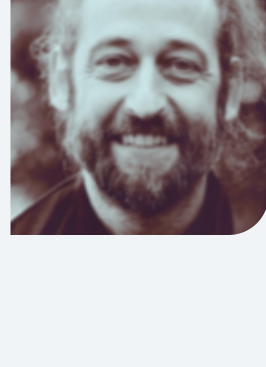
The new **Applied Science Instrument group** was created in early May. It brings together ILL's neutron imaging, strain scanning and irradiation facilities within a single structure with strong links to industry. The new group includes the imaging instruments NeXT, MoTo, PoTo, and ThRILL, alongside the SALSAs strain scanning instrument, the TENIS irradiation station, and the Industrial Liaison Unit.

The ILL is currently expanding its installed imaging capabilities in response to growing demand and the increasing potential of imaging techniques. The new group will benefit from and further strengthen the increasingly important relationship between neutron scattering and industry, as companies seek more efficient and sustainable methods to develop and manufacture materials, ensure quality control and optimise manufacturing processes.

**The Head of the Group is Markus Strobl**, formerly head of the Applied Materials Group at the Paul Scherrer Institute (PSI) in Switzerland, and currently Vice-President of the International Society for Neutron Radiography (ISNR).

At the start of the month, the **ILL Neutron Battery Hub (NBHub)** was officially launched as a new collaborative initiative bringing together neutron scientists and battery researchers to support the development of next-generation battery technologies. Created within the framework of the new ILL Science Strategy, the hub aims to deepen the understanding of reaction and degradation processes in batteries, accelerate the discovery of new materials and technologies, and strengthen collaborations with both academia and industry.

The NBHub is coordinated by **Quentin Berrod** (ILL/CNRS) and **Sandrine Lyonnard** (CEA-Irig). Its kick-off meeting, held at the ILL on 19 May, brought together researchers from the neutron and battery communities to discuss the hub's first scientific priorities and future collaborations.



[Learn more about NBHub](#)



## Discover the 2025 ILL Annual Report

Explore a year of scientific highlights, technical achievements and key developments across the institute.

[Read the report](#)

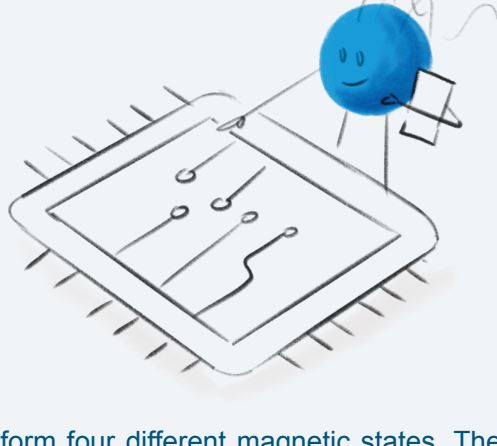
## Recent science news

### Beyond 0 and 1: A material that can store four magnetic states

Quantum Materials

Today's computers store information using only two values: 0 and 1. But as electronic devices become smaller and reach their limits, scientists are searching for new ways to pack more information into the same space.

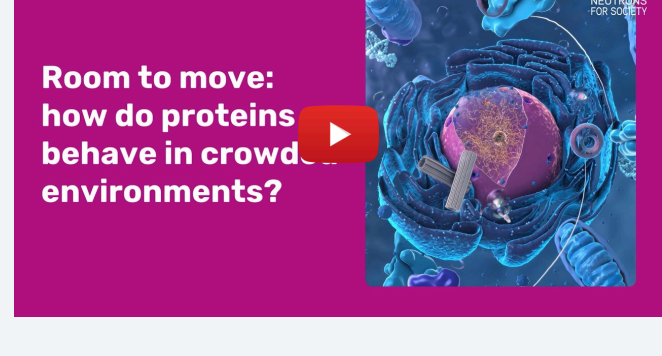
One idea is to use magnetism. In some materials, atoms behave like tiny magnets that can arrange themselves in different patterns. If each pattern represents a different value, one memory element could store more than just two possibilities.



In this study, researchers found a material in which these atomic magnets can form four different magnetic states. They showed that these states can be controlled using electric and magnetic fields and remain stable once created. Using **neutron experiments on D3** at the ILL, the scientists were able to observe each of the four magnetic states that were created by applying electric and magnetic fields. This discovery hints at a future where computers might store significantly more information than today's binary technologies. [Read more](#)

### Room to move: How proteins behave in crowded environments

Health



Inside living cells, proteins are constantly moving, interacting and organising into complex structures. In many cases, they gather into dense assemblies where space is limited and motion becomes constrained. Understanding how proteins behave in such crowded environments is essential for explaining key biological processes, from cellular organisation to the formation of protein aggregates linked to disease.

Using **neutron scattering on IN16B** at the ILL, combined with computer simulations, researchers studied how a particular type of protein, behaves inside dense assemblies formed by the proteins themselves. They found that the motion of these proteins is not uniform: proteins move more slowly in the dense centre of the assemblies and more freely near the edges. This shows that how proteins organise themselves directly affects how they move, an effect that is important for understanding how biological systems function. [Read more](#)

### Designing materials that defy heat flow

Environment

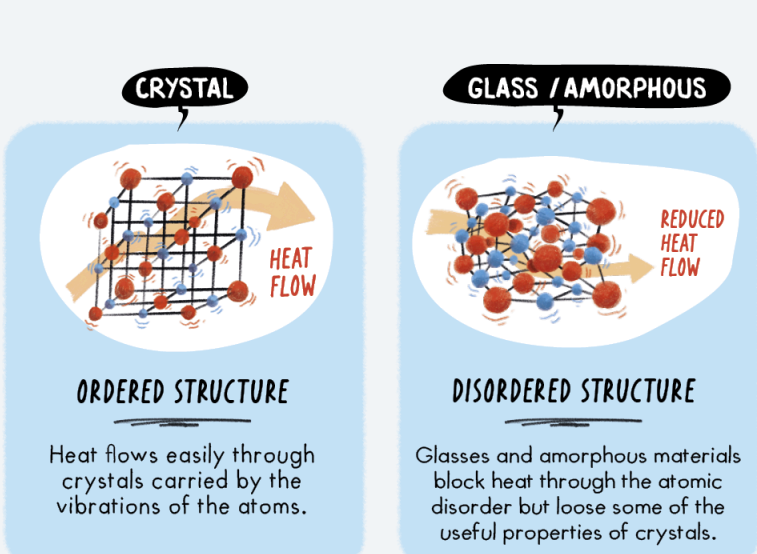
Energy

From electronics to energy systems, controlling heat is a persistent challenge. Heat normally races through crystals. But scientists have now discovered a crystal in which heat slows to a crawl, almost as if it were glass.

What makes this breakthrough different is how it was achieved: instead of relying on trial and error, the team developed a simple physical rule and combined it with machine-learning screening to predict promising candidates from thousands of materials.

**Neutron scattering measurements on PANTHER** at the ILL allowed the team to compare their theoretical predictions with the actual atomic vibrations inside the crystal.

By confirming that the predicted behaviour matches the experimental observations, the measurements support the proposed picture in which the vibrations that normally carry heat are strongly disrupted. The result is not only a record low heat-conducting crystal, but a new strategy for designing materials that control heat more effectively. [Read more](#)



## European news

### Two new European projects involving the ILL launched on 1 May

**COORDINA-INNOV** aims to strengthen coordination and joint technology development across European research infrastructures and industry, focusing on areas such as advanced detectors, superconducting technologies and AI-assisted tools.

**PRISMAP+** will expand European access to novel medical radionuclides for biomedical research through a network of neutron sources, accelerators and radiochemistry platforms. Within PRISMAP+, ILL contributes to radionuclide production and research activities for emerging medical radionuclides. [Learn more](#)



## Events

### Novel opportunities for cooperation between France and Germany in neutron science



During the 2026 Spring Meeting of the Condensed Matter Section of the German Physical Society in Dresden, directors of French and German neutron facilities, together with scientists and representatives of the neutron user associations in both countries, SFN and KFN, came together for a round table discussion on cooperation in neutron science. The exchange covered beamtime access, training opportunities, future collaborations and emerging research areas across the neutron community. [Learn more](#)

### Abstract submission open for the fifth ESS ILL Joint User Meeting



Abstract submission is now open for the 5th ESS ILL Joint User Meeting in Lund, Sweden, on 18–20 November 2026. This year's scientific topics include:

- batteries and energy materials,
- quantum materials,
- liquid-liquid phase separation,
- additive manufacturing.

[Submit your abstract](#)

### FASEM school at ILL: training on neutron and photon science for energy materials

The ILL recently hosted the third edition of the French Swedish Academy for Scattering Experiments and Modelling (FASEM), an advanced training school dedicated to early-career researchers working with neutron and photon techniques. More than 150 applications were received for the 2026 edition, with 30 participants attending on site in Grenoble and 50 more joining remotely, reflecting the growing global reach of the initiative.

This year's programme focused on energy-related materials while introducing participants to techniques such as imaging, diffraction, spectroscopy and small-angle scattering. Combining lectures, visits to the ILL and ESRF (European Synchrotron Radiation Facility), and exchanges with instrument scientists, the school offered both advanced scientific training and valuable opportunities for international networking and collaboration. [Learn more](#)



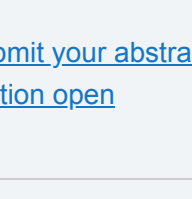
## Calendar

- 23 June - 11:00 (UTC) | College 9 Seminar: **Structure formation in paints and coatings** presented by Lucas Goehring (Nottingham Trent University) [Join online](#)
- 25 June - 14:00 | College 3 Seminar: **Nonclassicality, quasiprobabilities and weak values explored in neutron interferometry** presented by Ismaele Vincent Masiello (TU WIEN) [Join online](#)
- 30 June - 10:30 | College 3 Seminar: **Experimental activities at the ISOLDE-CERN facility** presented by Carlotta Porzio (CERN) [Join online](#)
- 27 July - 1 August | **Annual FullProf School: Materials Science** [Registration open](#)
- 27 September - 2 October | **International Conference on Complex Orders in Condensed Matter** [Submit your abstract](#)
- 12 - 16 October | **10th International Topical Meeting on Neutron Radiography (ITMNR-10)** [Registration open](#)
- 18 - 20 November | **ESS ILL User Meeting** [Submit your abstract](#)

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