

ILLnewsletter

ILL in focus

The latest proposal round has brought a particularly strong response from the ILL user community. **720 experiment proposals** were submitted, representing a **24% increase compared with April 2026** and the **highest number received since 2016**.

Behind these numbers is a community full of ideas and scientific ambition. The proposals will now move into the review process in early November, with the successful experiments helping to shape the ILL's scientific programme for 2027.

User Programme Calendar

15 February 2027 | Standard proposals deadline
DDT and **EASY** proposals: open year-round

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

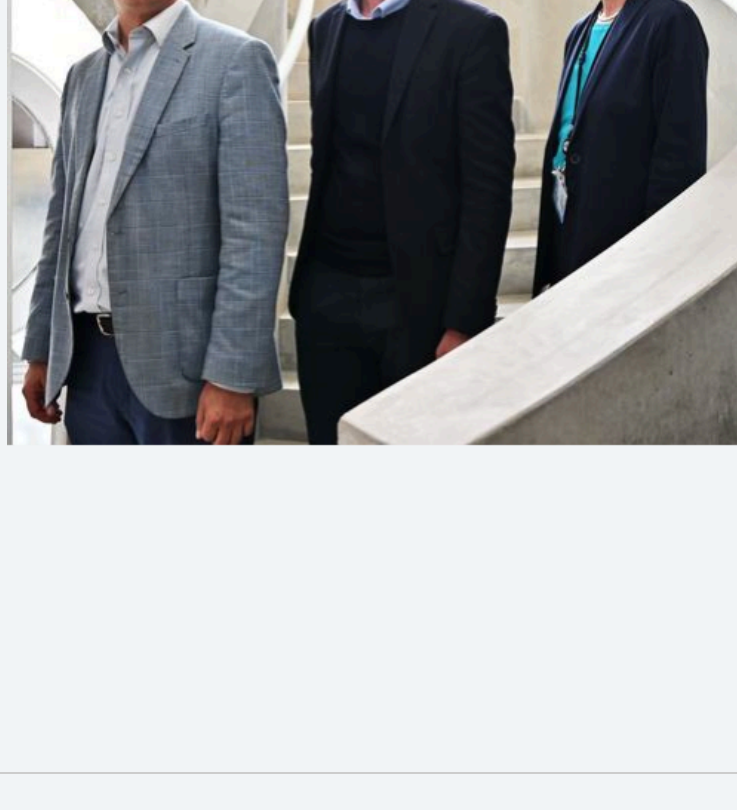
[Check 2026 Reactor Cycle Dates](#)

Regine Willumeit-Römer is the new ILL Director

The new ILL senior management team took up duties on **1st October 2026**. **Regine Willumeit-Römer is now the ILL Director, appointed by Germany for this term of office**. Ken Andersen and Jacques Jestin are now Associate Directors for the UK and France, respectively, continuing from the previous management team.

Regine Willumeit-Römer, professor at the Faculty of Engineering at the University of Kiel (Germany), was previously Acting Scientific Director of the Helmholtz-Zentrum Hereon and Head of its Institute of Metallic Biomaterials. For the last two decades, she has been engaged in biomaterials research, with a strong focus on the development of degradable metallic implants and bridging fundamental research with innovative applications that benefit both academia and industry.

The new Director takes the reins of the ILL at a particularly exciting time - not only is the Institute at the peak of its performance, but its crucial role in the European neutron landscape and as a pillar of European leadership and sovereignty in science and innovation is being increasingly recognised. [Read More](#).



ILL welcomes 13 countries to explore scientific membership and partnership

On 24-25 September, the ILL organised a workshop with prospective Scientific Member countries to explore new partnerships. Twenty six participants from 13 countries attended the event.

As an international research facility, the ILL is continuously trying to grow the neutron community and reaching out to new member states. The new partnership with Canada is an excellent example of this effort. It is hoped that Kazakhstan will become a Scientific Member from 2027. In addition, ILL will work with prospective members over the next two years to strengthen the neutron user community in their countries and to establish further contracts for the period 2029 and beyond.



Overall, the event was very positive and there was a collective enthusiasm to explore and work towards scientific membership. With each prospective member, the ILL intends to sign a Memorandum of Intent, establishing the commitment of both parties and the actions to be undertaken, such as national outreach events and engagement with funding agencies. [Read More](#).

Spotlight on our scientific users

Meet some of the scientists behind the 200th User Cycle and discover the questions they brought to the ILL.

Meet the scientists that use neutrons to...



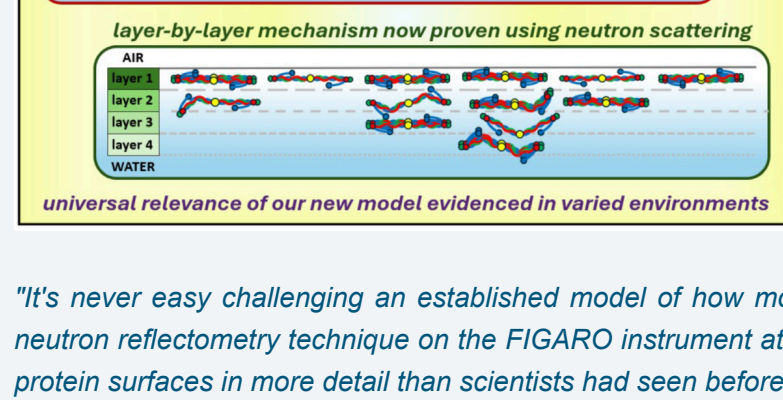
User cycle #200

Recent science news

How do wounds heal?

Health

Neutrons enable a discovery that reshapes our understanding of the healing process



"It's never easy challenging an established model of how molecules behave in nature. But through using the advanced neutron reflectometry technique on the FIGARO instrument at the ILL research facility, we could see the structure of these protein surfaces in more detail than scientists had seen before," explains principal investigator Dr Richard Campbell.

The discovery has far-reaching implications for health science, from improving wound-healing treatments to better understanding complications in respiratory disease and diabetes monitoring. [Read more](#)

Torso di Livorno: how neutrons helped give the statue a new life while unveiling some of its mysteries

Cultural Heritage

The famous Torso di Livorno is back on display at the National Archaeological Museum in Florence, after a long and complex work of restoration and research that brought it to the ILL. The bronze sculpture underwent **neutron imaging on the NeXT instrument**, a technique uniquely capable of mapping the conservation state of the entire artefact in a totally non-invasive way. This was the first time that this technique had been applied to a bronze statue of such monumental size.

The measurements provided essential information for the restoration of the statue, revealing features such as **metal porosity and density, presence of internal spacing chaplets, fractures, actual casting repair patches, etc.**

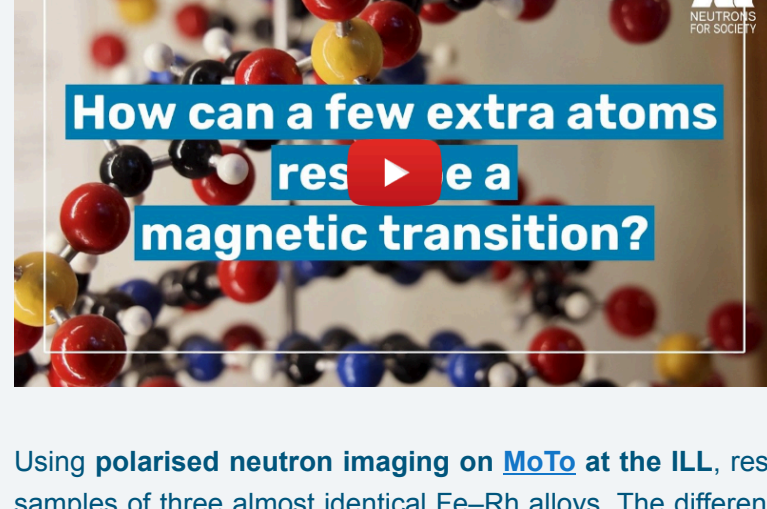
They also offered new clues about the techniques used to create the statue, helping researchers investigate its **origin and history, which remain shrouded in mystery**. [Read more](#)



How a few extra rhodium atoms reshape a magnetic transition

Environment

Polarised neutron imaging at the ILL reveals how adding just 1–2% rhodium changes the way a magnetoelastic phase transition unfolds through bulk iron-rhodium.



Using **polarised neutron imaging on MoTo at the ILL**, researchers have now watched this process unfold through bulk samples of three almost identical Fe–Rh alloys. The difference was striking. In **Fe₈₀Rh₂₀**, which contains equal parts of iron and rhodium, different regions transformed at different temperatures, producing a broad and uneven transition. Adding just 1–2% more rhodium made the transformation much sharper and more uniform in the bulk of the samples, while also shifting it to lower temperatures.

The results show how a very small change in composition can reshape the way an entire material transforms and how polarised neutron imaging can reveal behaviour hidden beneath the surface and behind an average measurement. [Read more](#)

Iron-rhodium (Fe–Rh) is a promising material for future **solid-state cooling**. Instead of using refrigerant gases, this solid material can absorb or release heat when exposed to magnetic fields, pressure or mechanical stress.

This behaviour is linked to a first-order phase transition. As Fe–Rh is heated, its magnetic order changes while its crystal lattice expands slightly. But the transformation does not happen everywhere at once: the new magnetic phase may appear in some regions first and then spread through the material.

Rethinking liquid hydrogen storage with metal-organic frameworks

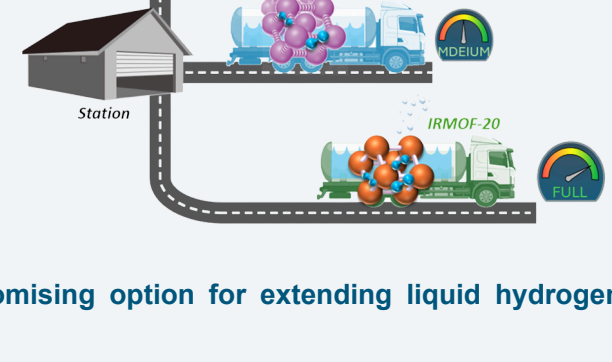
Energy

Metal-organic frameworks could more than triple modeled liquid hydrogen storage time while preserving up to 97% of its theoretical volumetric capacity.

Storing liquid hydrogen efficiently remains a major challenge, as heat entering a tank causes hydrogen to evaporate and gradually be lost. Researchers have shown that **metal-organic frameworks (MOFs)** could help limit these boil-off losses by trapping hydrogen within their nanoscale pores.

Experiments on the ILL's **IN1-Lagrange spectrometer** revealed how hydrogen molecules interact with and become confined inside the porous material. Combined with modelling, the results suggest that an optimised MOF could **more than triple liquid hydrogen storage time while retaining up to 97% of its theoretical volumetric capacity**

The results indicate that **to nanoscale confinement can be a promising option for extending liquid hydrogen storage and improving its transport efficiency**. [Read more](#)



European news

Strengthening co-innovation across European research infrastructures

The **first thematic workshop** of the European **COORDINA INNOV EU** project, *Landscape Analysis of the Future Co-Innovation Ecosystem*, took place at the ILL in September.

Over three days, **66 participants from 32 European research centres** came together to explore how research infrastructures and industry can work closely to shape a **more connected and effective European innovation ecosystem**.



PRIME-ARI kick-off: fostering agility and excellence in European research infrastructures



On 5–6 October 2026, the **kick-off meeting for PRIME-ARI** took place at the European Spallation Source (ESS) in Lund, Sweden. Funded under the **European Commission's Horizon Europe programme**, PRIME-ARI (P

Professionalisation and Innovation in Management and Engineering for Analytical Research Infrastructures) is a seven-partner initiative coordinated by ESS, alongside the ILL, X-officio Research AB, the European Solar Telescope (via

Fundación Canaria IAC), Università degli Studi di Milano-Bicocca, CERIC-ERIC, and European XFEL. **Running until March 2028**, the project will build a **cross-infrastructure curriculum covering administrative, financial, and engineering management**, ensuring Europe's large-scale

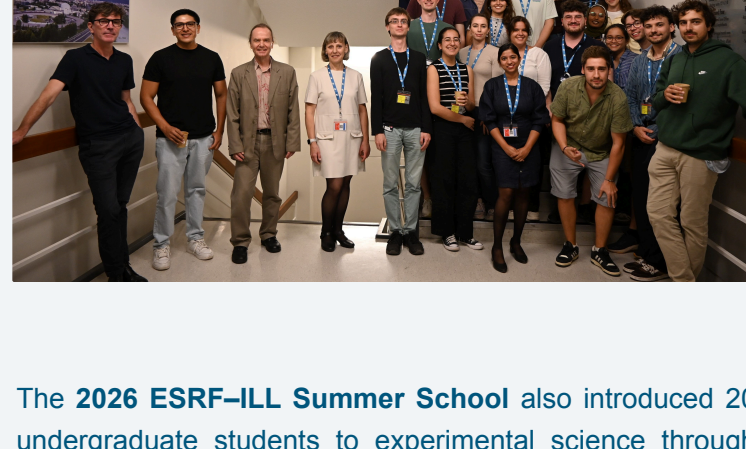
research facilities remain agile, sustainable, and high-performing.

Events

Training the next generation of neutron scientists

In September, the ILL welcomed two groups of young scientists for hands-on training in neutron science.

The **2026 JCNS Laboratory Course on Neutron Scattering**, jointly organised by the Jülich Centre for Neutron Science and RWTH Aachen University, brought 50 graduate students from 14 countries to the ILL for practical experiments on 27 instruments. Working alongside ILL scientists, participants gained first-hand experience in sample preparation, data collection and analysis across a broad range of neutron-scattering techniques.



The **2026 ESRF–ILL Summer School** also introduced 20 undergraduate students to experimental science through lectures, practical sessions and research projects at both facilities. Alongside X-ray methods at the ESRF, students discovered how neutron techniques can be used to investigate materials, magnetism, soft matter, biological structures and more.

Together, the two programmes highlight the ILL's role in **training future neutron scientists and building the international user community of tomorrow**.

Calendar

21 October - 14:00 (UTC) | College 9 Seminar: **Wound Healing – Redefining Fibrinogen Adsorption at the Air–Water Interface: an Intriguing Story with Multiple Layers** presented by R. Campbell [Join online](#)

26 October - 14:00 (UTC) | College 9 Seminar: **Dynamic Supramolecular Eutectogels with Reversible Light Driven Reconfiguration** presented by Ramón Rial [Join online](#)

3 - 5 November | **MDANSE School 2026** (ESS Data Management and Scientific Computing, DK)

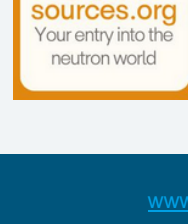
18 - 20 November | **ESS ILL User Meeting**

7 - 10 December | **School on Time-of-Flight spectroscopy** [Apply until the 16th of October](#)

Connect with the **Global Neutron Community on LinkedIn!**

Join the Neutronsources LinkedIn page and keep up-to-date:
- News from neutron facilities and research around the world
- Info on job openings, event announcements and more (including a digest from the neutron mailing list)

<https://lists.neutronsources.org/mailman/listinfo/neutron>



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