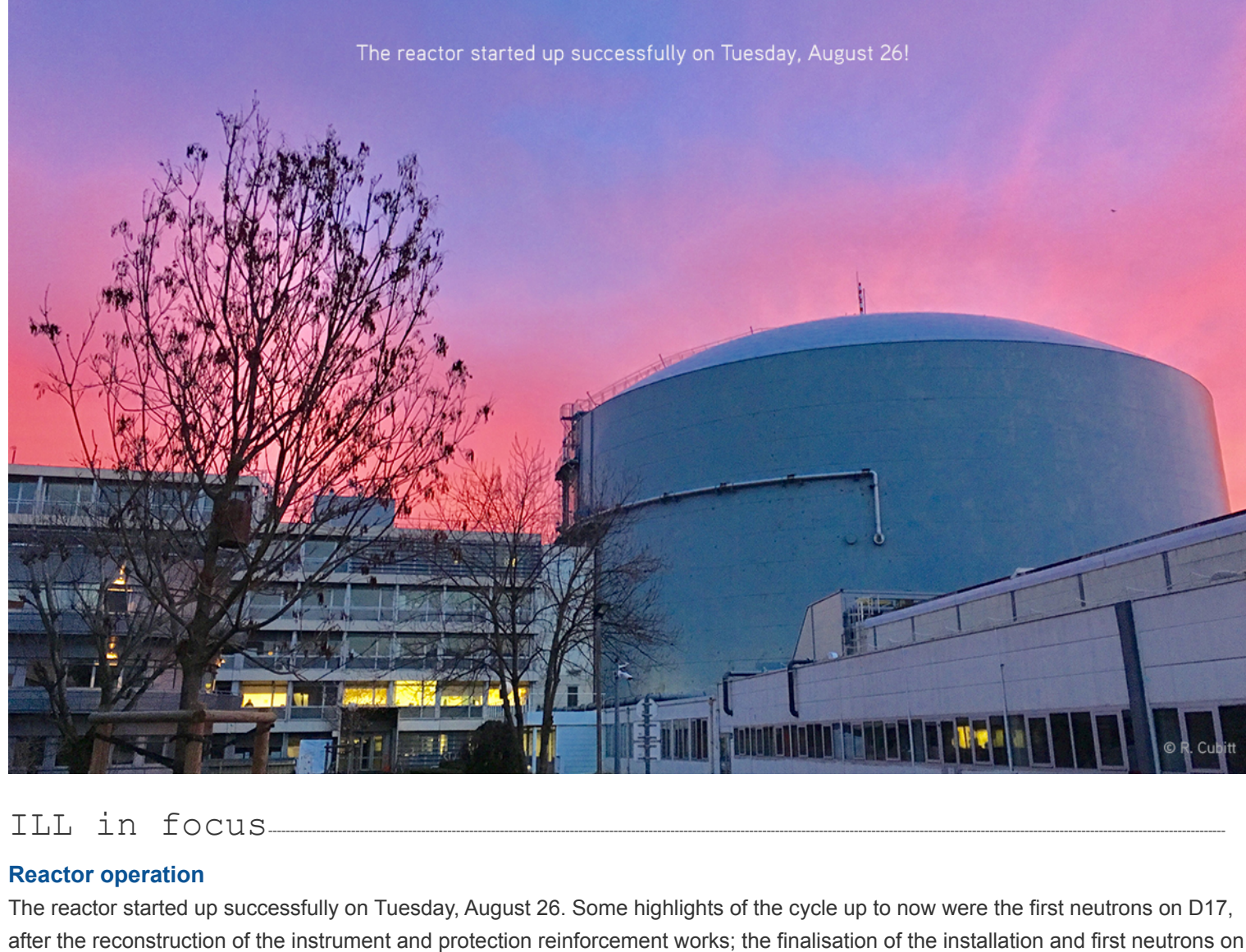


The reactor started up successfully on Tuesday, August 26!



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ILL in focus

Reactor operation

The reactor started up successfully on Tuesday, August 26. Some highlights of the cycle up to now were the first neutrons on D17, after the reconstruction of the instrument and protection reinforcement works; the finalisation of the installation and first neutrons on PorTo@H113; and the assembly of the MARMOT spectrometer on ThALES, which is ongoing. A more complete account of the main events and achievements of the cycle will be prepared after its conclusion, foreseen for 28 October 2025.

Proposal submissions

Up to the deadline of 15 September, 543 proposals were submitted on 42 instruments, resulting in a total of 2855 requested days. The subcommittees will evaluate them on 4-5 November, and accepted proposals will be scheduled over the first cycle and half of the second cycle in 2026.

New MyScience Web Interface

We're excited to launch the new [MyScience](#), designed to give you quick, one-click access to everything you need as an ILL user: proposals, publications, site access, visits, reporting, personal details, and more – all in one place. Beyond this first visible step, this marks the beginning of an important change in ILL's online tools. The platform is mobile-friendly, so you can check your status anytime from your smartphone via the QR code on our communications materials.



Recent science news

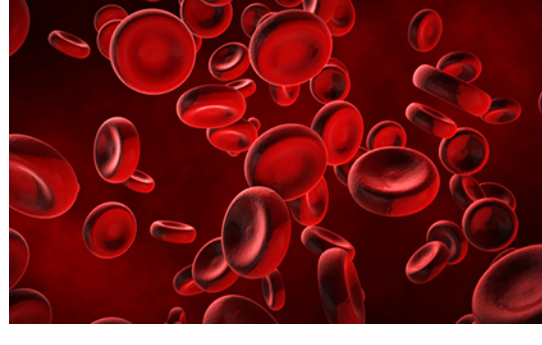
Phospholipids on a pea

Neutron reflectometry reveals how pea proteins interact with fats, which is key for plant-based food design. Peas are versatile protein sources: nutritious, widely cultivable, and low-allergen. Of special interest are legumin and vicilin, which help mix water and oils in foods. Experiments showed that legumin barely interacted with phospholipid films. Vicilin, however, changed structure and formed complexes with phospholipids. Neutrons' sensitivity to hydrogen made these observations possible. Such molecular insights aid the development of tasty, sustainable plant-based alternatives. This work advances understanding of protein-lipid interactions in plant foods. [Read more](#)



Seeing red: Investigating blood components via neutron scattering

Cells are protected by lipid membranes with proteins that regulate vital exchanges like ions and water. Defects in these membranes can cause disorders such as spherocytosis, where red blood cells are destroyed by the immune system. Researchers used neutron and X-ray scattering to study intact red blood cell membranes with high precision. These high-quality data enabled the development of a universal theoretical description of cell membranes. Physicist Cédric Gomme contributed a flexible 3D modelling tool to represent protein-membrane systems. This combined experimental-theoretical approach advances biomedical research and benefits the wider scientific community. [Read more](#)



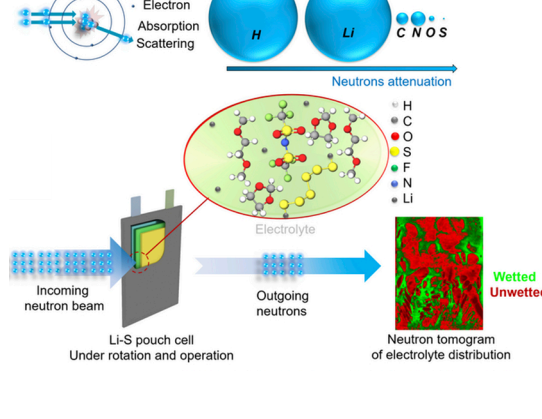
Spaghetti ai neutroni: Investigating the nanostructure of gluten-free pasta

A team of scientists used ILL neutrons to study the nanostructure of gluten-free spaghetti, aiming to improve its texture and preserve its structure during the cooking process. Experiments performed on ILL's D11 SANS instrument showed that the lack of gluten network in gluten-free pasta makes it sticky and liable to fall apart. The research illustrated how neutrons can help us better understand food, paving the way for the creation of new recipes. [Read more](#)



How batteries breathe

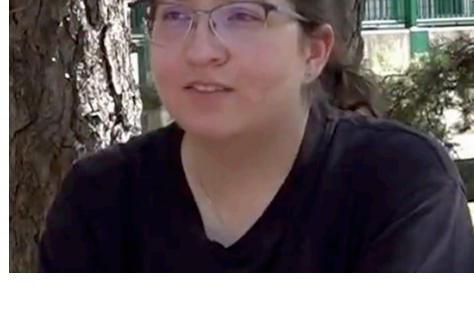
Scientists used neutron imaging on ILL's NeXT instrument to study lithium-sulfur (Li-S) batteries in real time. Li-S batteries promise high performance but face challenges under "lean electrolyte conditions," which improve energy density yet shorten battery life. The study revealed that electrolyte wetting inside the battery is uneven but improves during charge/discharge cycles, almost as if the battery were "breathing." This breathing effect redistributes the electrolyte solution and explains why battery life is reduced. Neutron imaging, highly sensitive to lithium and hydrogen, provides unique insights into these processes and paves the way for designing longer-lasting, next-generation batteries. [Read more](#)



Training

From newcomers to neutron explorers – ILL's first participants in the NEPHEWS Twinning Programme

The ILL recently welcomed its first participants in the NEPHEWS Twinning Programme, an initiative designed to introduce "novice users" to large-scale research facilities. Three video portraits highlight the experiences of Nicolas Schaeffer, Vlada Pashynska and Kinga Szarkowska. This twinning programme has given them the opportunity to gain practical expertise, grow in confidence and develop new collaborative partnerships in their respective fields: sustainability, biophysics and nanosciences. The NEPHEWS project is scheduled to run until the end of 2026. [Read more](#)



Hands-on neutron experiments at ILL: the JCNS Laboratory Course on Neutron Scattering

ILL hosted 35 young scientists from 12 different countries as part of the 27th edition of the Laboratory Course on Neutron Scattering, organised by the Jülich Centre for Neutron Science (JCNS), which took place from 25 August to 5 September 2025. After a week in Jülich, the participants came to the ILL for a week of hands-on training, where they had the opportunity to carry out experiments on 24 instruments, covering a wide range of scientific areas. In addition, seven scientific computing tutorials were conducted, highlighting the growing importance of computational methods in neutron scattering. The course allowed the students to broaden their knowledge of neutron theory and practice. [Read more](#)



X-Ray and Neutron Science - International Student Summer Programme at ILL/ESRF

The ILL/ESRF International Student Summer Programme on X-Ray and Neutron Science is aimed at undergraduate students. It consists of a 4-week experimental project embedded in a research group of ILL or ESRF, together with a series of introductory lectures on the principles and applications of X-ray and neutron science (magnetism, materials science, soft matter, structural biology, imaging, etc.). The school is a very interesting opportunity for undergraduate students to discover these techniques and the science at our institutes.



Europe

ReMade@ARI TransNational Access (TNA) Proposals | Rolling Call from September 2025 – May 2026

Scientists in circular economy research can access over 50 European analytical research infrastructures with support for facility access, travel, accommodation, and user guidance.

- **ReMade-TNA proposals:** submit anytime until **29 May 2026** (check facility-specific deadlines in the [Facility Schedule](#)).

- **Pre-Proposals:** submit until **15 May 2026**, at least **2 weeks before the facility closing date** (earliest date applies if multiple facilities are selected).

Events

Joliot-Curie Euroschool on Exotic Beams 2025 - JCES2025

The Joliot-Curie Euroschool on Exotic Beams 2025 took place last week in Oléron, bringing together around 100 PhD students and postdoctoral researchers. The aim of the school is to gather early-career scientists as well as senior researchers wishing to discover this field, and to present recent experimental and theoretical advances. Once again this year, the ILL made a strong contribution to the success of this edition. [Read more](#)



PSB Spotlight on Liquid-Liquid Phase Separation

The latest 'Spotlight' meeting of the Partnership in Structural Biology (PSB) brought together researchers from across the EPN campus and beyond for a morning of engaging presentations and discussions dedicated to liquid-liquid phase separation (LLPS). The ensemble of the contributions highlighted the relevance of LLPS across diverse contexts, in particular in addressing some of humankind's core challenges related to health, disease and the environment. [Read more](#)



Calendar

3 October | College 3 Seminar | K. Leung - From permanent to induced neutron EDMs

11 October | Fête de la Science - Maison Minatec, Grenoble

16 October | Collège 9 Seminar | A. Sanchez-Fernandez - Deep eutectic solvents as a tailorable platform for the next generation of nucleic acid formulations

21-23 October | DENIM 2025 - Design and Engineering of Neutron Instruments Meeting - Maison Minatec, Grenoble

27-31 October | FullProf School 2025 - Second Edition of the School on Neutron Diffraction Data Treatment using the FullProf Suite - ILL

Connect with the Global Neutron Community on LinkedIn!

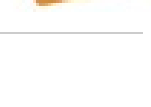
Join the Neutronsources LinkedIn [page](#) and keep up-to-date:

- 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)

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