INSTITUT LAUE LANGEVIN September 2024



PRACTICAL INFO FOR ILL USERS





Next proposal submission deadline: 16 September 2024 (midnight CET) Proposals must be submitted via the ILL User Club (please log in with your personal username and password). Easy Access requests for short measurements and DDT requests for full experiments to be performed as soon as possible can be submitted at any time. See here for detailed proposal submission information.

Important dates

Panel meetings: 13-14 November 2024 (Wednesday, Thursday) Scheduling period: From April 2025 Next deadline: 15 February 2025



A world-unique suite of 43 state-of-the-art user instruments for 2025

The ILL is at its highest performance level ever. The completion of the Endurance upgrade programme in 2024 consolidates the institute's position as a world leader in neutron sciences, with order-of-magnitude improvements in performance resulting from increases in count rate, reduction in background, extended Q ranges, new sample environments, and new data treatment software. See more on the new webpage "The ILL Endurance upgrade programme - ILL technology for the next decade of science innovation".



Industry experiments with neutrons at the ILL

The ILL has looked closely at research performed with industry and values this highly. More than 150 companies have performed over 700 experiments at ILL since 2000, corresponding to 77 companies in the last 5 years. Many more experiments declare industry relevance in the proposal forms. This body of experiments has resulted in over 650 publications with industry which tend to be well-cited. ILL intends to develop further its research performed with industry and encourages proposals with industry partners, both in the user programme (with a commitment to open data and publication of successful experiments) and via proprietary access when confidentiality is required. Please contact industry@ill.eu for more information and support in accessing beam time.



European collaborations

The ILL is currently involved in 19 research projects funded by the European Commission under H2020, HORIZON and EURATOM, with a total budget of 7M€. Since 2015, ILL has participated in or coordinated 34 EU-funded projects, securing 19.4 M€. For future projects - the work programme for 2025 will be published soon - we are looking for new collaboration opportunities. Whether you're planning your next research proposal with ILL staff, considering joining us as a Marie Curie postdoc or ERC fellow, our European office is here to support you. Read more about ILL's involvement in EU projects.



ReMade@ARI - call for proposals 2024

As a hub dedicated to developing **new materials for a circular economy**, ReMade@ARI provides scientists exploring the properties and structures of recyclable materials with coordinated access to more than 50 European analytical research infrastructures.

There are 3 access routes:

- ReMade-SME proposal: 1 Feb - 16 Dec

- ReMade-TNA proposal: 28 Aug - 9 Oct

- ReMade-IND proposal: 19 Apr - 6 Sep

Applicants are also welcome to submit a **pre-proposal** to receive support from the Smart Science Cluster members of ReMade@ARI to develop their idea into a **full proposal**.

OBITUARY



Björn Fåk (1959-2024) It is with deep sadness that we announce the tragic and untimely passing of our friend and colleague Björn Fåk, who died in a motorcycle accident on 25 July 2024 at the age of 65. A distinguished physicist, Björn was renowned for his profound knowledge in neutron scattering, which he applied to many different areas of condensed matter physics, in particular



RECENT SCIENCE NEWS



Neutrons reveal surprises on the action of natural antibiotics

Antimicrobial peptides (AMPs) are natural antibiotics very effective against resistant bacteria. Despite their interesting properties, AMPs remain hard to use. A study now published marks a remarkable step further in understanding how AMPs work. Taking full advantage of neutron and X-ray scattering, researchers obtained results that are both important and surprising. Read more



Exciting new material for long-acting drug delivery

HIV/AIDS remains a major global health challenge, with an estimated 39 million people living with the disease and 1.5 million new infections each year. Though antiretroviral therapy provides effective treatment and prevention, limitations arise due to inadequate adherence to the required lifelong daily drug regimen. There is thus significant interest in the development of long-acting drug delivery systems that enable consistent and sustained drug release for extended periods. Researchers from Queen's University Belfast have recently published proof-of-concept of a long-acting drug delivery platform based on a novel peptoid-peptide material. The contribution to this work by the Institut Laue-Langevin (ILL) demonstrates, once again, the facility's dedication to the provision of neutrons for society. Read more



Future energy storage: inspired by nature, advanced by neutrons

The replacement of fossil fuels with renewable energy is a key requirement to achieve climate neutrality in Europe by 2050. Energy storage systems are a crucial technology for this global energy transition due to the intermittent nature of renewables. A recent publication – describing a biomimetic energy storage system inspired by the structure of naturally-occurring methane hydrate – highlights the unique contribution of neutrons to help tackle this societal challenge and advance towards a sustainable future. Read more



Self-assembling LEGO sets under pressure

The self-assembly of small molecules into ordered, large (from a few nanometres to micrometres) supramolecular structuresrepresents a fascinating field of research. These structures have a variety of forms and behaviours. They are also highly sensitive to environmental stimuli, such as temperature, pressure, light, pH, or the presence of specific molecules. This sensitivity can be used to control them, and is at the basis of a number of applications, from drug delivery to the development of responsive materials. Indeed, understanding how these complexes organise themselves and react to external parameters is key to be able to control them – and to better use them. In a study now published, researchers explore the effect of pressure. The challenging high-pressure neutron experiments performed take full advantage of ILL's leadership in this domain, in what concerns both equipment and expertise. The publication appeared in the Emerging Investigator Themed Collection of journal PCCP (Physical Chemistry Chemical Physics), following an invitation to ILL scientist Leonardo Chiappisi. **Read more**

MORE HIGHLIGHTS & NEWS HERE !

ELTT



Sunday 1 September to Saturday 28 September | X-ray and neutron science - international student summer programme at ILL and ESRF Monday 2 to Friday 6 September | Mini-colloquium on material research with neutron at the CMSD341 conference of EPS (Braga, Portugal) Tuesday 3 to Friday 13 September | Oxford School of neutron scattering (Oxford, GB) Monday September 16 to Friday 20 September | EMBO Practical course on small angle neutron and X-ray scattering from biomacromolecules in solution Tuesday October 1 to Friday 4 October | Big Science Business Forum Tuesday November 5 to Thursday 7 November| MDANCE School



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ILL ESS USER MEETING 2024 10 - 11 DECEMBER

GRENOBLE, FRANCE



Early bird registration until 14 October - Registration deadline 9 November

The User-Office is avilable from Monday - Friday 8am - 4.30pm on the first floor of the new ILL50 building. You can also use the telephone available near to the ILL50 reception to call your Local Contact, or the User Office in case of problems

Previous issues of the ILL newsletter



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