



# ILLnewsletter

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## ILL ESS USER MEETING

**SAVE THE DATE**

**10-11 DECEMBER 2024 - GRENOBLE**

**More information soon!**

### NEWS FOR USERS

#### IMPORTANT AND NEW INFORMATION FOR USERS COMING FOR AN EXPERIMENT

##### ON-SITE SECURITY MEASURES

**NEW!** In accordance with French regulations governing all nuclear sites, the ILL is required to implement increased security measures. Starting April 2024, armed guards will be stationed within the ZAC to reinforce the security of both the ILL installations and all people on-site. These essential measures enable us to keep delivering exciting science and innovation.

##### Please be reminded that inside the experimental halls:

Only laptop bags are allowed; no food or drink is to be taken into the reactor; no photography or filming; no smoking or vaping inside any building on site.

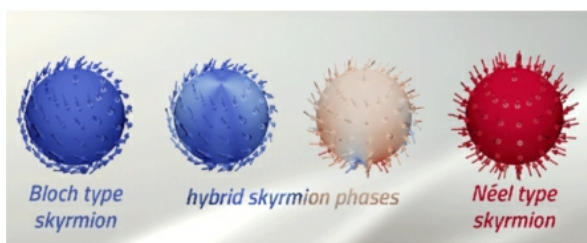
**NEW!** We have recently installed a set of lockers close to the experimental areas, available for users to store their personal belongings. You can request the code to your instrument's locker from the ILL50 ZAC reception. You can also request an ILL cloth bag with a reusable cup.

##### USER ACCESS POLICY AND REIMBURSEMENT REGULATIONS

All users submitting a proposal or/and coming for an experiment, must acknowledge and accept the ILL Access policy (on the proposals form or/and in the registration form). [This policy](#) has recently been updated.

**NEW!!** Please note that starting now, users eligible for financial assistance may request an extra day following the experiment if help with initiating data processing is required.

### HIGHLIGHTS AND SCIENCE NEWS



#### Skyrmion metamorphosis: A Breakthrough in Magnonic Crystal Research

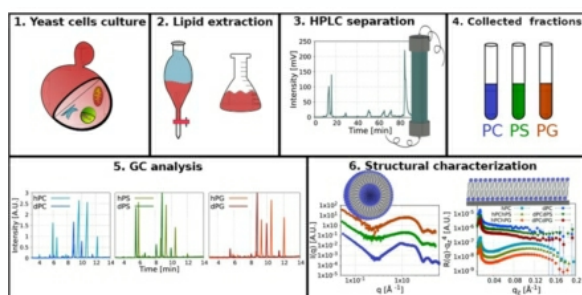
Magnetic skyrmions, with their distinctive vortex-like magnetic spin configurations, have emerged as a fascinating subject of study, capturing the attention of researchers worldwide. A recent breakthrough in the study of skyrmions has been achieved through neutron scattering techniques, revealing the presence of hybrid skyrmion phases in the polar tetragonal magnet EuNiGe<sub>3</sub>. [Read more](#)

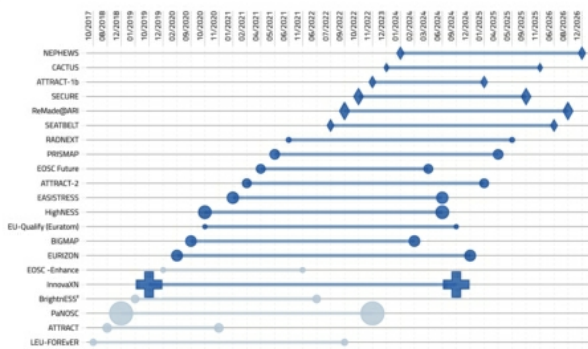
#### L-lab production of natural lipid molecules for advanced cellular membrane models

Cellular membranes are complex systems that consist of many different lipid species. Gaining insight into the interactions between the cellular membrane and a diverse range of biomolecules (such as proteins, peptides, and drug molecules) is crucial for biomedical researchers and pharmaceutical companies and neutrons are a powerful experimental probe, offering selectivity and contrast variation through molecular deuteration. Until recently, most studies have been based on simple bilayer models, artificially mimicking the cellular membrane, that are made of synthetic lipid species.

The lipid deuteration platform at the ILL, known as the L-Lab has achieved an important breakthrough by extracting and purifying a wide range of lipids from biomass, including deuterated biomass from the deuteration lab. Led by K. Batchu, the L-lab now produces significant quantities of a wide range of pure hydrogenous and deuterated lipids which can be combined in much more realistic models of cellular membranes with user-defined partial deuteration to highlight specific membrane components.

The L-Lab is part of a new support service combining Biology, Deuteration, Chemistry and Soft





### European projects

ILL is involved in a wide range of EU projects - currently 17! This important activity is reviewed twice a year with the latest review taking place last week. The portfolio of projects must be continually renewed - 15 projects have been accepted, submitted or are in preparation with deadlines for submission this spring. Two new projects are now starting: NEPHEWS to provide trans-national access to neutron and X-ray facilities and reach out to new communities and CACTUS to improve solar photovoltaic performance adapted for various climate conditions. The projects are closely aligned with ILL's core business covering science and societal challenges (e.g. clean energy/batteries and health/radioisotopes), neutron technology (e.g. software, detectors and sample environment), the user community and so on. Almost all projects involve partners in EU member states and associated countries and are an opportunity to create new networks. If you would like to partner with ILL in EU, or indeed nationally-funded projects, please write to 'europe(at)ill.eu'

[MORE HIGHLIGHTS HERE !](#)

The User-Office is available 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

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