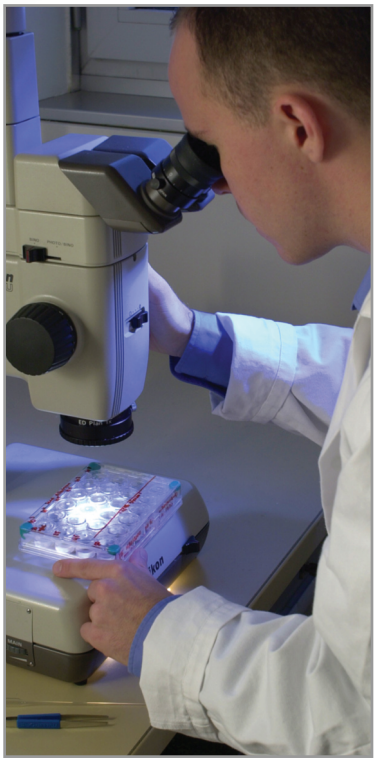
Chemistry and biology laboratories



The main ILL Chemistry and Biochemistry laboratories are situated in ILL20 - also known as the EMBL building - 2nd floor and are part of the Large Scale Structures (LSS) group. Smaller preparation laboratories are situated at the D11 and D22 instruments and are supported in the same way as the main laboratories.
In the event of ILL facilities being unavailable there is an agreement for users to be able to use the chemical laboratories at the ESRF. Further biology support is also provided by EMBL.

ILL Chemistry laboratories (ILL20, EMBL, 2nd floor)

The Chemistry Laboratories in ILL20 have the following equipment available for users: IR spectrometer, UV spectrometer, Rheometrics rheometer, Langmuir trough, densimeter and precision balance in Lab. 209, a glove-box, high-temperature furnace and glass-blowing facilities in Lab. 207, working surfaces, hoods, balances, rotary evaporator, also organic and inorganic chemicals and supplies of solvents in Lab. 205.
A cold room (Room 202) thermostatted at 8°C (D_2O freezes at +4°C!) is available. All items stored in the cold room must be labelled with user name, local contact name and storage limit date.

A permanently updated list of available equipment can be found at:
http://www.ill.fr/lss/Chem_and_Biol_Labs/SommaireLabos.html

To permit the many different and frequently changing chemical preparations to be carried out quickly and without risk, users are requested to state in advance on the Sample Requirements Form whether they wish to use the laboratory.
Visitors and their Local Contact should, on arrival, contact Isabelle Grillo (ILL20, Room 221) and complete a "Chemistry Laboratory User Form". This form is to be affixed near the working position (hoods and benches).

ESRF Chemistry laboratory

For further information contact:
Harald Müller ESRF CT room 172
Tel. +33 4 76 288 2484
Fax +33 4 7 688 2020

ILL Biochemistry laboratory

The ILL biochemistry laboratory is primarily used by an in-house research team working on the deuteration of biological macromolecules for neutron scattering experiments. Visitors are welcome to use the facilities and benefit from the expertise of the in-house group to perform their own deuteration projects.
For further information contact P.A. Timmins
Tel: +33 4 76 20 72 63 - ***(timmins@ill.fr)***

In addition to the specialised equipment for cell culture and protein purification, standard equipment such as a visible/uv spectrometer, gel electrophoresis, fraction collectors are available. Furthermore a very wide range of equipment is available by arrangement with EMBL on the lower floors.

D11 laboratory (neutron guide-hall no 1)

This laboratory is reserved for sample preparations which need to be carried out near the experiment. Facilities include a precision balance, two fume hoods, a milli-Q water system, a fridge, vacuum oven, standard glassware, pipettes and a range of acids, bases and solvents. There is also a cold room. The lab is available to all users of the instruments in the guide hall but priority is given to users of D11 and the other instruments of the Large Scale Structures Group.

Chemistry and biology laboratories

D22 laboratory (neutron guide hall no 2)

A very small laboratory, suitable for sample loading and last minute manipulations is situated next to the D22 instrument. It is equipped with a hood, fridge, rough balance, pipettes and standard glassware.

EMBL laboratories (ILL20, 1st floor)

The EMBL Outstation offers ILL users a wide variety of biochemical and biophysical facilities. Laboratories are available on the first floor of ILL20 with access to ultracentrifuges and other standard equipment.
An electron microscope and X-ray diffraction equipment can be used to help sample characterisation. ILL biological users will automatically be sent a form for use of the EMBL facilities.
This should be filled in and faxed to:
EMBL (Françoise Tronel) at +33 4 76 20 77 86

All chemicals or samples brought into ILL from outside must be clearly labelled. Containers with unknown contents or without limiting date of removal are a safety risk for Laboratory staff.
Any such materials found in the laboratories or cold rooms will be removed without notice.
All users are required to follow the Safety regulations displayed in the laboratories. If you are in doubt about any aspect of safety, please contact the Scientist in Charge or the Laboratory Engineer, or the ILL Safety Officer.

DEUTERATION LABORATORY

Deuteration, partial or full, of biological molecules, proteins, nucleic acids, lipids, sugars, is essential to exploit fully the techniques of neutron scattering. As part of its strategy for the expansion of the life sciences programme in neutron scattering, the ILL, in collaboration with EMBL, has set up a laboratory for the deuteration of biological molecules. A molecular biologist experienced in macromolecular deuteration has been appointed and a well-equipped laboratory provided.

The aim of the laboratory is to provide a focus for European scientists wishing to make their own deuterated (Michael Haertlein) materials for neutron scattering experiments. Information for scientists wishing to carry out deuteration for NMR is treated separately. The laboratory has its own vigorous in-house research programme aimed at developing methods for deuteration as well as applying these methods to provide material for in-house neutron scattering studies. The in-house expertise and equipment is made available to external users to develop their own deuteration projects.

Access to the deuteration laboratory will be via proposals that will be peer-reviewed by a **panel of international experts** nominated by the ILL Scientific Council in collaboration with the EMBL.
The proposal template is on the ILL web-site: ***http://www.ill.fr/pages/science/User/UProposals.htm.***
Once completed, proposals should be sent, as an electronic attachment, to the ILL Scientific Coordination Office ***(sco@ill.fr)***.

Proposals for use of the laboratory should include:

- a description of the scientific case for using the laboratory
- an estimate of the time required and the costs of D_2O and deuterated carbon sources
- an explanation of the background to the scientific problem and why the requirement for deuteration, and in particular use of the ILL/EMBL facility, is necessary
- a realistic estimate of the amount of time needed to use the laboratory.

Prospective users are strongly encouraged to contact Michael Haertlein ***(haertlein@ill.fr)*** as their very first step when thinking of applying for access,

N.B.: *Acceptance of a proposal to use the deuteration lab facility does not imply automatic allocation of neutron beamtime although the beamtime committee will be informed of the out come of the deuteration proposal.*

For further information, please consult the ILL web site: ***http://www.ill.fr/YellowBook/deuteration/***