

Analytical Chemistry Platform

LABORATORY REGULATIONS



Lac Pavin (Massif central – France)

Room numbers and names:

008 : Salle ICP-MS	108 : Géochimie des sols et plantes
103 : Laboratoire Chromatographie Gazeuse	109 : Altération des minéraux
104 : Stockage Chimie	316 : Salle trace
105 : Laboratoire Chimie des solutions	317 : Salle de pesée
106 : Analyses Géochimiques	318 : Salle isotopie
107 : Laboratoire mercure	

Scientific leaders :

Stéphane Guédron – 04 76 63 59 28
Alexandra Gourlan – 04 76 63 59 13

Technical staff :

Delphine Tisserand (technical manager) – office 102 – 04 76 63 51 87
Sarah Bureau – office 036 – 07 68 23 93 00 / 04 76 63 51 31
Sylvain Campillo – office 036 – 04 76 63 51 31

PA (Preventive Agents) :

Julien Carcaillet – office 362 – 04 76 63 59 30
Nathaniel Findling – office 349 – 04 76 51 40 78
Benjamin Vial – office 231 – 04 76 63 52 16

ON YOUR ARRIVAL

Before working in the laboratories, you must read this document and agree to comply with it (last sheet to be signed by the technical staff). Activities that do not comply with the general health and safety rules and the rules described in this document may be suspended; if in doubt, come and discuss them with the technical staff.

On your arrival, you must :

- 1/ Register as an ISTerre employee/intern with Human Resources (Secretariat), the steps to follow will be communicated to you (see ISTerre intranet <https://isterre.fr/intranet/le-laboratoire/nouveaux-arrivants/article/les-premieres-demarches>) ;
- 2/ Declare your arrival to the technical staff: creation and display of attendance sheets, update of the team's alias, quartz, labagenda, safety training ;
- 3/ Obtain a workspace for the laboratories (laboratory notebook, bench, laboratory cupboards) assigned by the technical manager in agreement with your direct manager ;

AT THE LABORATORY

Access to the rooms



The building's normal opening hours are Monday to Friday from 7:00 am to 8:30 pm. Outside these hours the alarm is on.

Working hours in the platform's laboratories are Monday to Friday from 8:00 am to 7:00 pm. It is forbidden to work in laboratories outside these hours as well as on weekends and public holidays.

For people outside ISTerre or trainees, work in the laboratories can only be done in the presence of an engineer or accompanied by the responsible researcher (internship supervisor).

If access to the laboratory is necessary outside working hours, a request must first be made to the technical staff and your manager, with a description of the operations planned. The decision will be made by the technical staff with the responsible researcher who will inform the technical manager and the logistics department for access to the building. The responsible researcher will be in charge of the smooth running of the manipulations carried out and the exit from the building of the person who came to manipulate.

The laboratory on the 3rd floor (316-317-318) is not accessible without specific training by the technical staff. It is systematically locked and will only be accessible on request after technical staff. If you have access with a key, you must under no circumstances give access to an unauthorized person.

Analytical tools, material, products

The platform's tools are listed on the ISTerre website:

<https://isterre.fr/recherche/equipes/geochimie/moyens-et-outils/>

The other technical platforms available at OSUG are listed on the OSUG website:

<https://www.osug.fr/l-institut/moyens-analytiques/>

1/ Booking of equipment

The reservation is made on www.Labagenda.com, it will be validated after the agreement of the technical staff. The prices of the analyses are displayed on door 106.

2/ Borrowing equipment

Contact technical personnel for the use of the equipment. They will validate or not the use according to several points: availability, information and toxicological studies of the treated samples. If the borrowed equipment must be taken out of the laboratory, please ask the technical staff for authorization and note the loan on the dedicated notebook in laboratory 105. All borrowed material must be returned in its original condition. If this is not the case, the borrower undertakes to pay for the repair or to replace it.

3/ Chemical products

The inventory of chemicals available in the laboratory can be found at www.Quartzy.com
Update this inventory if you make a product entry or if you finish a product.

For all requests for new chemicals to be ordered, you must read the product's **safety data sheet (fds)** and communicate it to the technical staff.

An order for chemical products can only be placed if the product fds is compatible with the technical means available to the platform for according to:

- Its storage, the management of its handling risks, its disposal.

If you think the chemical can be integrated into the platform, you will inform the technical staff who will validate or not its integration.

Request the disposal of toxic chemicals or CMRs that you will no longer use, in order to avoid their unnecessary long-term storage. Notify the person responsible for waste disposal (Sylvain Campillo).

Storage at 4°C (only if necessary - see fds): Toxic or CMR products to be stored at 4°C are **only stored in the refrigerator in room 107**. Other products (non-toxic and non-CMR) to be stored at 4°C are stored in the refrigerator of room 105.

4/ Hydrofluoric acid

If your experiments require the use of hydrofluoric acid, contact the technical staff for implementation. The use of HF is limited **only** to rooms 316 and 318, HF cannot be handled by trainees. For other personnel, its handling requires specific training by technical personnel.

5/ Pictograms



Corrosive



Gas under pressure



- Poison in high doses
- Irritating
- May cause skin allergies
- May cause drowsiness or dizziness



Explosive



Poison at low doses



Oxidizing



Adverse effects on organisms
of the aquatic environment

- May cause cancer
- May impair fertility or fetal development
- May modify the functioning of certain organs
- May cause severe lung effects



Flammable



Mandatory respiratory protection



Mandatory sight protection



Laboratory coat required



Mandatory hand protection



First aid kit



Eye rinsing



Safety shower

For any new experiment, it is mandatory to discuss it with the technical staff who will validate or not the experiment envisaged. In the event of potential danger, the project can only be carried out after validation by the responsible researcher, technical staff (with possible agreement of the Prevention Agents) and the team leader. The project will only be carried out in the presence of the responsible researcher, technical staff and/or the PA.

In case of emergency, the emergency services must be contacted (form on the entrance door of laboratory 105):

SAMU	15
POMPIERS	18
N° tel URGENCE EUROPEEN	112
POLICE	17
Centre anti-poison	04 72 11 69 11
Gardes du campus	04 76 82 55 54
Défiibrillateur :	Cafeteria 1^{er} étage ISTerre
Bâtiment :	ISTerre Maison des Géosciences
Adresse :	1381 rue de la piscine 38400 Saint Martin d'Hères

Any incident must be reported on the register SST ([https://intranet.univ-grenoble-alpes.fr/Applications/Registre SST](https://intranet.univ-grenoble-alpes.fr/Applications/Registre_SST)).

In case of technical problems, a sheet is available on each room with the name and number of the competent persons to contact.

To Place an order

Common equipment (gloves, filters, tubes, acids, ICP standards...) - **CHIM 1** credit line

Write the name of the missing product on the whiteboard, specify the reference (quantity, purity) or send an email to the technical staff.

Specific products for a project

Quotation to be requested from the supplier. Archive quotations on the common space:

Devis_AAAAMMJJ_fournisseur_consomables

Chemicals: Read the data and safety data sheet (fds) and archive it on the common area.

Ask your manager which entity (credit) to use

Fill out the order form request form AAAAMMJJ_Fournisseur

Send by email to the manager (christelle.adoult@univ-grenoble-alpes.fr) and one of the technical staff) the form and the estimate.

DELIVERY

If partial delivery, put an "OK" next to the arrived product in the file YYYYMMDD_Supplier

When everything has arrived, change the name of the form: YYYYMMDD_Supplier_OK

Chemical: **fill in the database on www.Quartzy.com**

Store your products

Sign the delivery note (BL) and return it to the manager once the entire order has been received

Where can I find information on orders?

<\\ist-shares\data\geochimie\commandes\AAAA>

- Supplier contact details: order board
- Price of annual offers by supplier: order table
- Sample Purchase Order Request Form: Cmd_Supplier
- Annual supplier offers: in the directory of the corresponding year

Where can I find the archived data and safety data sheets (fds)?

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- Archive data and safety data sheets in the fds tab: fds_NameProduct

Laboratory rules

1/ TRAINING

It is forbidden to handle in the laboratory without being trained by competent personnel.

2/ MANDATORY IDENTIFICATION

- Of your workspace: contact the technical staff to set up an experience identification sheet on your bench.
- Of your samples (NAME or initials, DATE, CONTENT): any unidentified sample will be DEDENTED.

3/ PROTECTION

Wear suitable PPE (Personal Protective Equipment): gloves, glasses, gloves, masks... Use protective equipment: fume cupboards, safe weighing station...

Toxic vapours (acids, bases, solvents and others...): mandatory handling under fume cupboard.

4/ CHEMICALS

It is mandatory to consult the safety data sheets (<http://www.sigmaaldrich.com/france>, Institut National de Recherche et de Sécurité http://www.inrs.fr/htm/la_fiche_data_de_securite.html) beforehand and only use toxic and CMR products under the supervision of a competent person. (CMR prohibited for trainees).

When opening a bottle of chemical product, write the date of opening on the box.

Storage of Fe²⁺ salts or any other compound in a reduced state in the GLOVE BOX (and not in the refrigerator). Warning: toxic products prohibited in glove box.

5/ WASTE

LIQUIDS: specific cans are provided for liquid waste in room 104 and room 316, it is mandatory to use them and not to throw polluting solutions in the sink.

SOLIDS: for all solid waste (paper, gloves, Pasteur pipettes, etc.) contaminated by a toxic agent, contact the technical staff, jumps are available for this type of waste (double packaging required).

NANOPARTICLES: separate solids from liquids; Place in bucket for solids (double wrapped with plastic bag) and in can for liquids (place vials in plastic).

6/ MANDATORY CLEANING

From your workspace: never leave a dirty bench.

From glassware and other equipment to washing machines:

Step 1: remove the traces of the ethanol marker, remove the scotch....

Step 2: Rinsing pure water or other cleaning if necessary (diluted acid...)

Step 3: Dishwasher

Step 4: Drying

Step 5: Storage

Please follow **ALL** steps. If you are conducting an experiment involving equipment, you are asked to do washings. For any contamination of glassware and equipment (iron oxide, calcite or other stains...), contact the technical staff.

Teflon material (savillex): hot acid, see with the technical staff according to the desired analysis.

Scales: Cleaning after each use.

Once every six months, all laboratory users must participate in the laboratory cleaning day.

7/ DO NOT CONTAMINATE SAMPLES / EXPERIENCES of other users, there are ultra-trace element analyses in laboratories.

8/ Do not store solutions in centrifuge tubes or glass vials.

9/ ANTICIPATE gas/product/material requirements

GAS: Gas users are responsible for checking the gas level in the room on the ground floor. Anyone is allowed to change a gas cylinder only if they have been trained by the technical staff. When the user connects the penultimate full gas bottle, he must inform the technical staff to place an order (attention delivery only on Wednesday, give your order 1 week before the desired delivery day). If the gas is not used, the cylinders and inlet valves in the laboratories must be closed.

10/ LYOPHILIZER: Avoid operating the freeze-dryer during the weekend; observe the commissioning and shutdown protocol.

11/ FIELD EQUIPMENT

Upon return from each field mission, ALL MATERIAL (aluminum crates and laboratory equipment) must be stored, CLEANED and RECALIBRATED (VTW Multi 340i multiparameters and micropipettes).

12/ Inform the technical staff of any malfunction of an analytical device or equipment.

Before you leave (or annually for sorting !)

EMPTY your laboratory cupboards, SORT your samples contained in the laboratory (bench, hoods, refrigerators, freezers...) with your manager.

Handover of the laboratory notebook to the technical staff.

A presentation of your work will be appreciated by the team before you leave!

Valuation of results, rules:

Publications, posters, conference presentations and other awards:

- **Without the participation of the platform engineers:** you must thank the analytical chemistry platform in the acknowledgements.

"Chemical analysis (or ICP-AES analysis, or ICP-MS analysis or Hg-analysis etc...) were performed using the analytical chemistry platform of ISTerre (OSUG)".

- **With the participation of the platform engineers:** you must at least thank them by name in the acknowledgements.

- **If significant participation of engineers** (significant number of analyses and/or field missions and/or writing and proofreading of the valuation): you must associate the engineers as co-authors.

This rule has been validated by the ISTerre Laboratory Council for publications.

In all cases, you should send your publication, posters or presentation to the technical staff.

Posters and presentations: please inform the technical staff of the name of the conference, place and date where the results will be presented.

These regulations are posted at the entrance of laboratory 105 and are online on the ISTerre website (<https://isterre.fr/plateformes/chimie-analytique/>).

Failure to comply with this regulation may result in a ban on access to laboratories.

**TO SIGN AND GIVE A COPY TO THE
TECHNICAL STAFF**

I declare that I have read the general health and safety rules and the operation of the laboratories of the Analytical Chemistry platform of the Isterre laboratory located at 1381 rue de la Piscine in Saint Martin d'hères, and I undertake, as well as my direct manager, to respect them.

Done at _____ the _____

Student's name

Name of the advisor

Signature

Signature