



The newcomer Safety instructions guide

© Karine THOMAS pour l'Observatoire de Paris

All informations on www.chs.obspm.fr

March 2012



Table of contents

✓ Contacts for Health and Safety matters	Page 2
✓ Safety measures at the Observatoire	Page 3
✓ On-site traffic	Page 6
✓ Preventive medicine	Page 7
✓ Fire hazard	Page 9
✓ Electrical hazard	Page 12
✓ Screen work	Page 14
✓ Chemical hazard	Page 16
✓ Noise	Page 20
✓ Waste management	Page 23
✓ Works and handling operations	Page 25
✓ Laser hazard	Page 27



Contacts for Health and Safety matters

- The President of the Observatoire
- The head of laboratory or the head of department
Is in charge of ensuring the safety and the protection of staff members under his supervision.
- The Health and Safety managers of the Observatoire (01 45 07 79 68) and of the CNRS (01 45 07 51 09)
They advise and suggest measures of improvement, they supervise verification visits and the Health and Safety agents, they implement training courses.
- Assistant de prévention (Health and Safety agents).
They inform and advise all members of staff, they register and work on register Health and Safety issues.
- The prevention doctors
The occupational physician at the Observatoire (01 45 07 74 58) and the medical secretary (01 45 07 74 63)
The occupational physician at the CNRS Bellevue (01 45 07 58 01) and the nurse (01 45 07 52 50)
- The lecturer or the teacher/researcher
He is in charge of ensuring the safety and the protection of students and trainees under his supervision.
- You...
...have access to the Health and Safety registry, you are informed about safety measures and training sessions and you are required to follow safety instructions.

Safety measures at the Observatoire

How to proceed in the event of a CORPORAL injury

- 1 - PROTECT : ward off potential danger (cut off the power, switch off electrical equipments)
- 2 - RESCUE : keep the victim(s) away from the source of danger
- 3 – CALL a first-aid rescue worker (SST) if needed or CALL THE EMERGENCY SERVICES :

18 (FIRE BRIGADE) ; 15 (AMBULANCE) ; 112 (from a mobile phone)

Specify the address of the premises and **mention precisely**:

- The exact location of the accident (building number, floor, unit or office name)
- The nature of the accident
- The number and state of the victims
- Details of first aid provided
- Particular risks (chemical hazard,...) and hazards (fire, obstruction,...)

DO NOT HANG UP FIRST

Inform the security post in order to facilitate emergency access (tel.: 01 45 07 74 60 in Meudon, 01 40 51 21 77 in Paris and 02 48 51 86 00 in Nançay).

How to proceed in the event of corporal injury

INCENDIE

Vous êtes témoin d'un début d'incendie
(de jour comme de nuit) :

- 1 - Alertez  En actionnant un déclencheur manuel
- 2 - Utilisez les moyens d'extinction à votre disposition 
- 3 - En cas d'échec des 2 procédures précédentes, prévenez directement les Sapeurs Pompiers 

(0) 112
(Depuis téléphone mobile)

indiquez :

-  le nom de l'établissement
-  l'adresse
-  le lieu (étage, aile, porte...)
-  la nature du feu

Ne raccrochez pas le premier

EVACUATION 

Dès que vous entendez le signal sonore d'évacuation :

-  Fermez fenêtres et portes avant de sortir calmement
-  Dirigez-vous vers les sorties et issues de secours les plus proches sans précipitation
-  N'utilisez pas les ascenseurs
-  Ne revenez pas sur vos pas pour prendre vos affaires personnelles
-  En cas de chaleur et fumée, baissez-vous, l'air frais est près du sol
-  Rendez-vous au point de rassemblement

PARKING EXTERIEUR

En cas d'impossibilité d'évacuer, enfoncez-vous dans une pièce, mouillez et calfeutrez la porte et manifestez-vous à la fenêtre

In the case of an **occupational accident** at the Observatoire, accident report forms are available in each department's secretarial office.

It is compulsory to report all accidents.

Where to find information on Health and Safety?

Safety regulations are displayed in each building together with the lists of first-aid rescue workers and Health and Safety agents (ACMO).

Health and Safety registers are available in each department. Remarks and suggestions relating to risk prevention and improving work conditions may be recorded in the department **Health and Safety register**.

To which purpose?

- To report: any work accident which does not lead to medical leave or declaration, the types of incidents and any malfunctioning.
- To analyze events in order to avoid future occurrences.

A **grave and imminent danger register** is available on each three sites. It is designed to keep a record of cases of danger in which workers have a right to withdraw from work.

The registers are kept in the safety and Health manager's office (Meudon), in the Pavillon building next to the 61 entry (Paris) and in the administration office (Nançay).



ON-SITE TRAFFIC

Comply with road rules as in town!

Cars, cyclists and pedestrians all mix on the sites. It is therefore necessary to obey traffic regulations.

Remember:

- Speed is limited at **40 km/h** on the premises.
- Pedestrians always have **priority** over cyclists and drivers.
- Respect pedestrian crossings and disabled access.
- Use designated public parking spaces.



Parking spaces are strictly reserved for professional purposes.

Parking for any other purposes will lead to immediate removal of the vehicle.

The site managers will study each particular case reported to them (extended parking in the course of a mission, out of date registration label).



Preventive medicine

The occupational physician is present every other Wednesday between the sites of Paris and Meudon.

He is also present in Nançay once to twice a year.

His medical secretary will summon you for a first or an annual visit, or after a long medical leave.

Medical office

In Meudon : second Cour des Communs, ground floor.
In Paris : bâtiment B, ground floor.

Opening hours

From 9:30 to 12:00.

Contacts

Annick GUIDAL, medical secretary: 01 45 07 74 63
Dr HOANG: 01 45 07 74 58

The visit is compulsory for every new entrant including post-graduates.
(please make yourself known to the medical secretary).



Should you be planning a special or a high altitude mission, it is compulsory to see the preventive doctor at least a month ahead of departure for more thorough examinations.

Staff members are due to attend a medical visit at least once every five years.

Agents occupying a position involving special risks and those whose health requires it must attend more regular visits as defined by the occupational physicist.

Should you feel in need, you may ask to see the doctor outside the periodical visits.

CNRS staff members will be summoned for a visit on the site of the Regional department in Meudon Bellevue.

Dr SANDER: 01 45 07 58 01

Jeanne-Marie HEBERT, nurse: 01 45 07 52 50

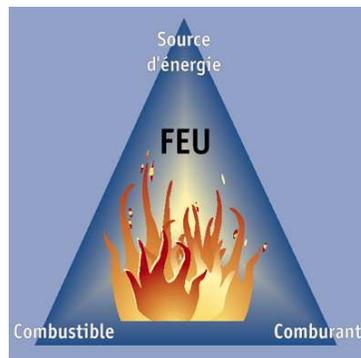


Fire hazard

Fires are a major risk which may cause burns, intoxication and panic reactions.

How does a fire start?

Activation energy
(flames, sparks, collision...)



Fuel
(carboard, petrol)

Combustive
oxygen

Fires occur when these three elements coexist.

How to prevent fire hazards?

- Avoid accumulation of inflammable matters (storage of paper or of chemicals...).

- Prevent energy activation (electrical short-circuits, respecting smoking areas...).

It is essential to:

- Locate the nearest fire extinguishers to your work surroundings.
- Keep access to escape routes and to fire extinguishers clear of obstructions.
- Read the safety rules and **signposts**.
- Take part in evacuation exercises.



How to behave if a fire occurs?

How quickly you react is essential to contain the start of a fire. (see page 4)

Be aware that:

It is highly recommended to use an oxygen fire extinguisher for fires caused by electrical equipment.

Training sessions for learning to use fire extinguishers are organized on the sites. Do take part.

Hot spot works (welding...), wether internal or external must be carried out with a fire permit.

Different fire extinguishing equipment for different types of fire



For wood, paper, cardboard fires...



For grease fires (petrol, oil...).



For gas fires.



For metal fires.

Electrical hazard



Electrical hazards are the most frequent of all and the easiest to manage.

30 % of fires are electrical.

The dangers incurred:

Contact with a faulty electrical circuit can cause the current to pass through the body and lead to:

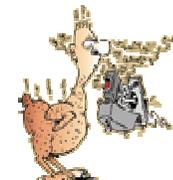
- **Electric shock:** electric shock which does not cause death.
- **Electrocution:** electric shock resulting in death if it is not treated immediately.

The consequences depend on how strong and powerful the current is and how long it passes through the body.

How to avoid the risk?

although highly dangerous, electrical hazards may easily be avoided::

- ❖ Locating faulty equipments:
- Absence of metal equipment grounding.
- Exposed wire or cluster of electrical wires.



- ❖ avoid taking risks:
 - operating under voltage without authorization.
 - connecting multiple sockets.
 - leaving electrical equipments switched on during absence.

In the event of an accident:

- Switch off the power at the circuit breaker or unplug the electrical equipment.
- If you have training, provide first-aid or call a **first-aid rescue worker** (SST).
- Call the emergency services:
18 (FIRE BRIGADE) ; 15 (AMBULANCE) ; 112 (from a mobile phone)

DO NOT HANG UP FIRST

Inform the security post in order to facilitate emergency access (tel.: 01 45 07 74 60 in Meudon, 01 40 51 21 77 in Paris and 02 48 51 86 00 in Nançay).

Reacting quickly is essential for saving the life of an electrocuted person.



Report any electrical problem so that a **professional** electrician may intervene.



Screen work



Did you know?

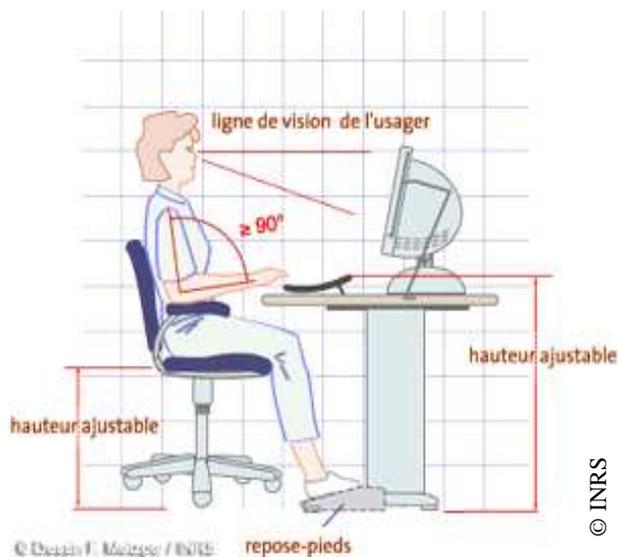
When working conditions are unsuitable, screen work may lead to various medical disorders:

- ❖ **visual fatigue**: eye sawness, headaches...
- ❖ **stress** : visual and psychosomatic disorders affecting work efficiency and human relationships.
- ❖ **musculoskeleto disorders**: stationary position and repetitive work (carpal tunnel syndrome, back pain...).

How to face your screen: (see next page)

- ❖ choose adequate furniture which can be adjusted to your needs.
- ❖ Adjust lightning and contrast of the screen at a comfortable level.
- ❖ Your work surroundings should be adequately lit (avoid glare and refletive effects) and the screen positioned at eye level (likewise for document supports).

- ❖ Avoid repetitive work and vary working activities.



« The working position »



Chemical hazards



Working in laboratories and in workhouses involves specific dangers due to the use of potentially harmful toxic substances.

It is therefore necessary to take precautions when using, storing and destroying such chemicals.

Learning about the dangers of chemical substances:

The label on the recipient indicates namely: the name and address of the manufacturer, the name of the substance, risk and safety precautions and **hazard symbols** (see next page).

It is also strongly recommended to read **the safety notice** which gives extra information on safety, health and environmental precautions as well as how to protect oneself and behave in the case of an accident (see label page 16).

Chemical substances may cause irritations, burns, asphyxiation and intoxications.

« Hazard symbols »



© INRS

Precaution instructions:

- ❖ Do not use substances without a label.
- ❖ Work under a ventilation hood and air work surroundings in order to reduce **the risk of inhaling** the substance.
- ❖ Wear PPE (glasses, gloves, lab coats... against **projection hazard** or **skin contact** with the substance.
- ❖ **Respect hygiene instructions** in laboratories : it is forbidden to smoke, to eat, to wear jewelry work with tied up hair.



Storage:

Chemicals must be stored in a designated chemical hold which should be locked and equipped with a drip tray (in the event of leaking).

✚ Storage related risks:

- Increased risk of fires and explosions.
- Weakened packaging under certain conditions (damp, heat, light).
- Risk of fall or spilling of the contents.

✚ Precautions:

- Do not store more than you need.
- Limit the number of people exposed (limited access, locked cabinet).
- Be careful when storing chemicals (to avoid falls, slipping, dangerous chemical reactions).

In the case of an accident :

Rince eyes 15 to 20 minutes under cold water in case of contact.

On other parts of the body, take off clothes downwards under a shower (never over the head).

Paris site :



Chemical wastes are stored in the chemical hold. You may contact one of the chemicals officers : Florence Cornu, Roland Lefèvre ou Florent Reix.

Chemical incompatibility table :

						* © INRS
	+	-	-	+	-	
	-	+	-	○	-	
	-	-	+	+	-	
	+	○	+	+	-	
	-	-	-	-	+	

Caption :

- Must not be stored in the same place.
- Can only be stored together under appropriate conditions (storage outside in a ventilated area, at a sufficient distance from each other, with access limited to authorized staff).
- +
- +
- +
- +
- +
- +



Noise



« Noise is described as any auditory sensation which is disturbing and unpleasant »

Sound levels :

Niveau sonore en décibel dB(A)	Sensation sonore	Exemple
15 dB (A)	inaudible	forest
40 dB (A)	moderate	library
60 dB (A)	disturbing for intellectual work	restaurant
80 dB (A)	loud	train station
100 dB (A)	highly disturbing	disco
120 dB (A)	pain	jet engines (25m)

Noise risks depend on the level and the length of exposure to noise by the worker.

Occupational hazards due to noise :

Noise can have traumatic effects on health as well as other non traumatic, nonetheless serious and disabling consequences.

✚ Traumatic effects

➤ Auditory fatigue:

It is a temporary hearing deficiency. As long as it remains temporary, it is called auditory fatigue.

➤ Occupational deafness:

It is an irreversible hearing deficiency. The damage is stabilised when exposure to noise stops. Deafness evolves slowly (over a period of thirty years).

▪ First stage : Hearing deficiency affects frequencies which do not impair everyday life and the worker does not realize his hearing is impaired.

▪ second stage : Hearing deficiency increases and starts to impact on conversational frequencies. The worker asks for words to be repeated and suffers from obvious discomfort.

▪ Third stage : total deafness.

✚ Non traumatic effects

- change in heart rate and blood pressure.
- Sleep disruption, difficulties falling asleep, nocturnal awakenings.
- Lack of concentration, memory and vigilance.

The level of danger for a daily exposure to noise is a maximum of **80 dB (A)**, beyond this level, the dangers of developing an occupational deafness are high.

How to protect oneself against noise?

❖ collective protections:

- workplace design.
- noise reduction from the source (machines).
- work organization in order to reduce exposure time.

❖ individual protections: earplugs or headphones.



Important :

Workers exposed to noise levels above 80 dB (A) must be identified.

The occupational preventive medicine will suggest an audiogram before ordering adequate individual protective equipment.



Do not wait for the first symptoms of deafness to see the occupational doctor because damage caused by noise is irreversible.



Waste management

According to official regulations concerning waste, it is compulsory for individuals and companies to sort rubbish in order to minimize the amount of final waste.

Each one of us is under the obligation to sort waste.

There are three types of wastes at the Observatoire :

❖ Ordinary waste

It is comparable to household rubbish. A bin is at your disposal in your office for this type of waste.

In Meudon, bulky waste may be disposed of in the rubbish containers next to building n°18 (not for chemicals or toxic substances).

❖ Recyclable waste

A blue bin is at your disposal in your office to sort paper, cardboard and recyclable packaging. Encumbrant recyclable waste must be deposited in the yellow top containers.

❖ Special waste

They are also named « dangerous waste ».

In Paris, they are stored in the chemical hold. You may contact one of the chemical officers: Florence Cornu, Roland Lefèvre ou Florent Reix.

❖ Electric and electronic equipment waste

Special containers for WEEE are made available three times a year in building no.15 in Meudon and allée noire in Paris. In the meantime, keep old equipment aside and refer to the Health and Safety Officer.

❖ Batteries and ink cartridges

Ecologik Buro collects old batteries and ink cartridges (both laser and inkjet). It processes and recycles them free of charge.

Battery bins are available in buildings no. 2, 10, 11, 14 ,15 and 18 in Meudon and in building B in Paris.

Refer to the Health and safety Officer about the disposal of empty ink cartridges.

And:

➤ Concerning **electrical bulbs**, refer to the electricians who are in charge of changing bulbs and recycling them.

➤ **In Nançay**, all rubbish is to be deposited at the waste management facility.



Works and handling

Which hazards:

➤ Mobility disorders:

- back pain
- lumbagos
- tendonitis



➤ Crushing under the fall of a weight, causing fracture or concussion.

How to reduce hazard?

- Wear adequate equipment, especially **safety shoes** 
- Reduce distances as much as possible when carrying weight.
- Plan premises and machinery layout rationally.
- use **adequate handling equipment** (wheeel trolley, hand trucks...).

Advice for lifting a weight correctly:

- ❖ Position feet slightly apart around the weight.
- ❖ Legs should be slightly bent and the back straight. Use leg and thigh muscles to lift yourself up.
- ❖ Keep arms down to seize and carry the weight.



© INRS

Bear in mind :

According to official regulations, the maximum weight which can be lifted alone is :

Age	Homme	Femme
de 20 à 35 ans	25 kg	15 kg
de 35 à 50 ans	21 kg	13 kg
plus de 50 ans	16 kg	10 kg

Laser hazard



The danger involved in using laser depends on the nature of the **source**, the **output power** and the **emission wavelength** of the laser.

Corporal risks:

- ✚ Effects on the skin: various degrees of burns.
- ✚ Effects on the eyes: corneal burns.
- ✚ Electrical and electromagnetic risks related to the use of high-voltage current.
- ✚ Chemical or biological pollution risks: aerosol emission resulting from the heat degradation of materials.
- ✚ Indirect risks: fire, flaming particles, reduced oxygen in the air and noise..

For your information:

Training sessions are organized on how to use laser and on the specific risks involved.

For further information, you may ask the Health and safety Officers of the Observatoire and the CNRS.

How to protect oneself?

✚ Collective protections

- Define a visible **controlled aera** marked with standard pictograms.
- Non-reflective coating on laboratory walls. The beam trajectory should be confined or placed well beneath or above eye level.
- Avoid any unvoluntry scanning of the source or of the reflective devices.
- **Restrict access to the controlled aera** to laboratory staff.

✚ Individual protections

- Wear protective glasses.
- Wear protective non-flammable gloves.



In general:

In most laboratories, optical equipment has to be protected against dust. It is therefore highly advised to wear protective shoes and laboratory coats.

Each one of us should worry about his/her own safety, as well as the safety of co-workers, visitors, and protecting the environment.

Each one of us should be informed about good work practices, relevant measures in the case of an accident or an emergency and bear in my mind liabilities.

« Safety is everybody's concern »

112

Universau emergency call

15

Medical emergencies

17

Police

18

Fire brigade

0810 010 333

EDF / GDF (electricity and gas

01 40 05 48 48

Anti -poison centre

01 43 37 77 77

Emergency medical services

Hôpital Percy > 01 41 46 62 11

Serious burns

Useful numbers



Call the security post :

01 45 07 74 60 or 75 80 for Meudon
01 40 51 21 77 or 23 06 for Paris
02 48 51 86 00 for Nançay

You may contact the Health and
Safety Officer of the Observatoire:
01 45 07 79 68
and of the CNRS: 01 45 07 51 09



Emergency call numbers

In the case of a problem (fire, accident...):

18 (FIRE BRIGADE) ; 15 (AMBULANCE) ; 112 (from a mobile phone)

Specify the address of the premises and **mention precisely** :

- The exact location of the accident (building number, floor, unit or office name)
- The nature of the accident
- The number and state of the victims
- The details of first-aid provided
- Particular risks (chemical hazard,...) and hazards (fire, obstruction,...)

DO NOT HANG UP FIRST

Inform the security post in order to facilitate emergency access (tel.: 01 45 07 74 60 in Meudon, 01 40 51 21 77 in Paris and 02 48 51 86 00 in Nançay)

In the case of an accident, don't forget to call a **first-aid rescue worker**.

All health and safety issues should be reported to the department's **health and safety agents** (Assistant de prévention) first.

Bear in mind the **health and safety registers** and the serious and the **serious and imminent danger register**.



Please observe the safety instructions.

