

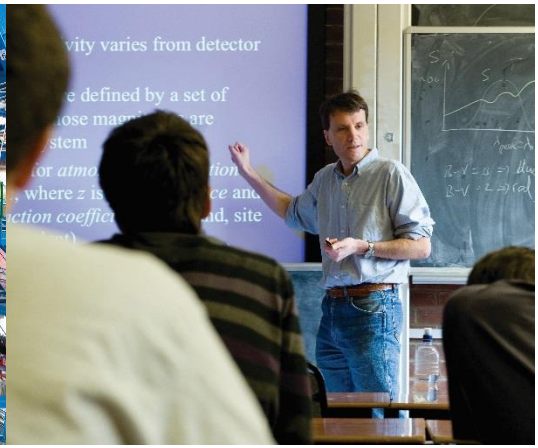
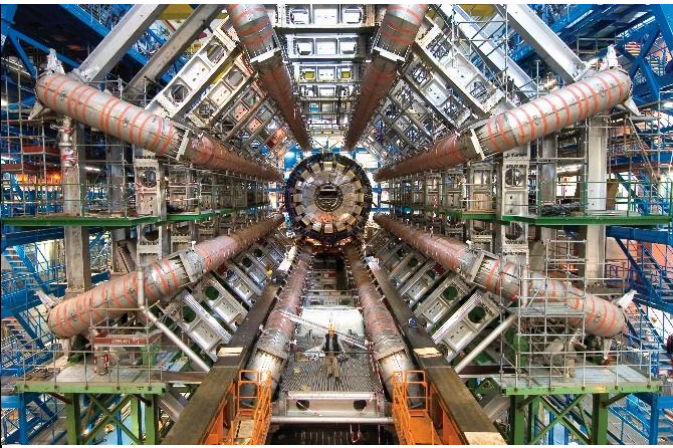
School of Mathematical & Physical Sciences

Safety Induction – Employees, Students and Visitors



University of Sussex

$$\frac{\partial}{\partial \theta} \ln f_{a, \sigma^2}(\xi_1) = \frac{(\xi_1 - a)}{\sigma^2} f_{a, \sigma^2}(\xi_1) = \frac{1}{\sqrt{2\pi\sigma^2}} \exp\left\{-\frac{(\xi_1 - a)^2}{2\sigma^2}\right\} \frac{(\xi_1 - a)}{\sigma^2}$$
$$\int_{R_n} T(x) \cdot \frac{\partial}{\partial \theta} f(x, \theta) dx = M\left(T(\xi) \cdot \frac{\partial}{\partial \theta} \ln L(\xi, \theta)\right) = \int_{R_n} T(x) \cdot \left(\frac{\partial}{\partial \theta} \ln L(x, \theta)\right) \cdot f(x, \theta) dx = \int_{R_n} T(x) \cdot \left(\frac{\partial}{\partial \theta} \ln f(x, \theta)\right) \cdot f(x, \theta) dx = \int_{R_n} T(x) \cdot \frac{\partial}{\partial \theta} [f(x, \theta)] dx = \int_{R_n} T(x) \cdot \frac{\partial}{\partial \theta} \left[\frac{1}{\sqrt{2\pi\sigma^2}} \exp\left\{-\frac{(\xi_1 - a)^2}{2\sigma^2}\right\} \right] dx$$



Do you feel safe in here now?

Why?

Who is responsible for your safety?

Introduction

The University of Sussex and the School of Mathematical & Physical Sciences have safety policies and systems in place to ensure the provision of a healthy and safe environment in which to work and study.

Everyone on the University premises has a duty:

- To comply with University Health and Safety policy
- To follow the appropriate safety systems and procedures
- To look after their own safety and that of others
- To not interfere with/misuse things provided in the interests of health, safety and welfare (eg moving fire extinguishers, blocking escape routes)

Legal Health and Safety Responsibilities

(Or what can happen if we don't maintain a safe working environment)

Civil Law (rights and duties to one another):

Duty to take reasonable care

Breaches – liable for damages/compensation

Criminal Law (offences against the state):

Statutory duty to comply with all relevant health and safety legislation

Breaches - prosecution and possible fines and/or imprisonment

Who is who in Health and Safety in MPS

Professor Adam Tickell, Vice-Chancellor, has overall responsibility for safety at the University. He delegates responsibility to the various heads of school and heads of departments.



Professor Philip Harris, Head of School, has overall responsibility for the safety of the School.



Who is who in Health and Safety in MPS

School Health and Safety Co-ordinators are delegated by the Head of School to undertake certain responsibilities:

Gemma Harman, School Administrator (starting 12/2/18)



Cassandra Churchwell, Technical & Administrative Manager,
Radiation protection supervisor



Marco Peccianti, Laser Safety Officer

In An Emergency

Call **3333** from an internal phone or **01273 873333** from a place of safety and give Security as much information as you can about the emergency:

- Location
- Type of emergency (eg gas leak)
- If there are, or may be, injured people

First Aid

If you require first aid assistance or come across someone who does:

Call **3333** from an internal phone

or **01273 873333** (from a mobile)

The University mobile first aid team will attend as quickly as possible.

Reporting of Accidents and Incidents

When?

All accidents and incidents should be reported as soon as possible.

In the case of accidents, this is to ensure that appropriate first aid can be administered where required, the area can be made safe, any relevant lessons can be learned and similar occurrences prevented in future.

If you see a hazard and report it quickly, we may be able to prevent an accident from occurring – even a near-miss should be reported.

Who To?

Your Lab Supervisor or School Health and Safety Co-ordinator, who will complete an online accident form giving details of the accident or hazard.

Fire Safety

Familiarise yourself with:

Local fire exits, Alternative escape route(s) and Assembly areas;

www.sussex.ac.uk/hso/specialist/firesafety/fireevac

Location of Fire extinguishers and Alarm call points

In case of fire:

On hearing the fire alarm, evacuate and report to assembly point

Do not use lifts to evacuate the building

Do not re-enter the building until advised to do so.

Regular unannounced fire drills will be carried out

Assembly points

There are assembly points around the campus:

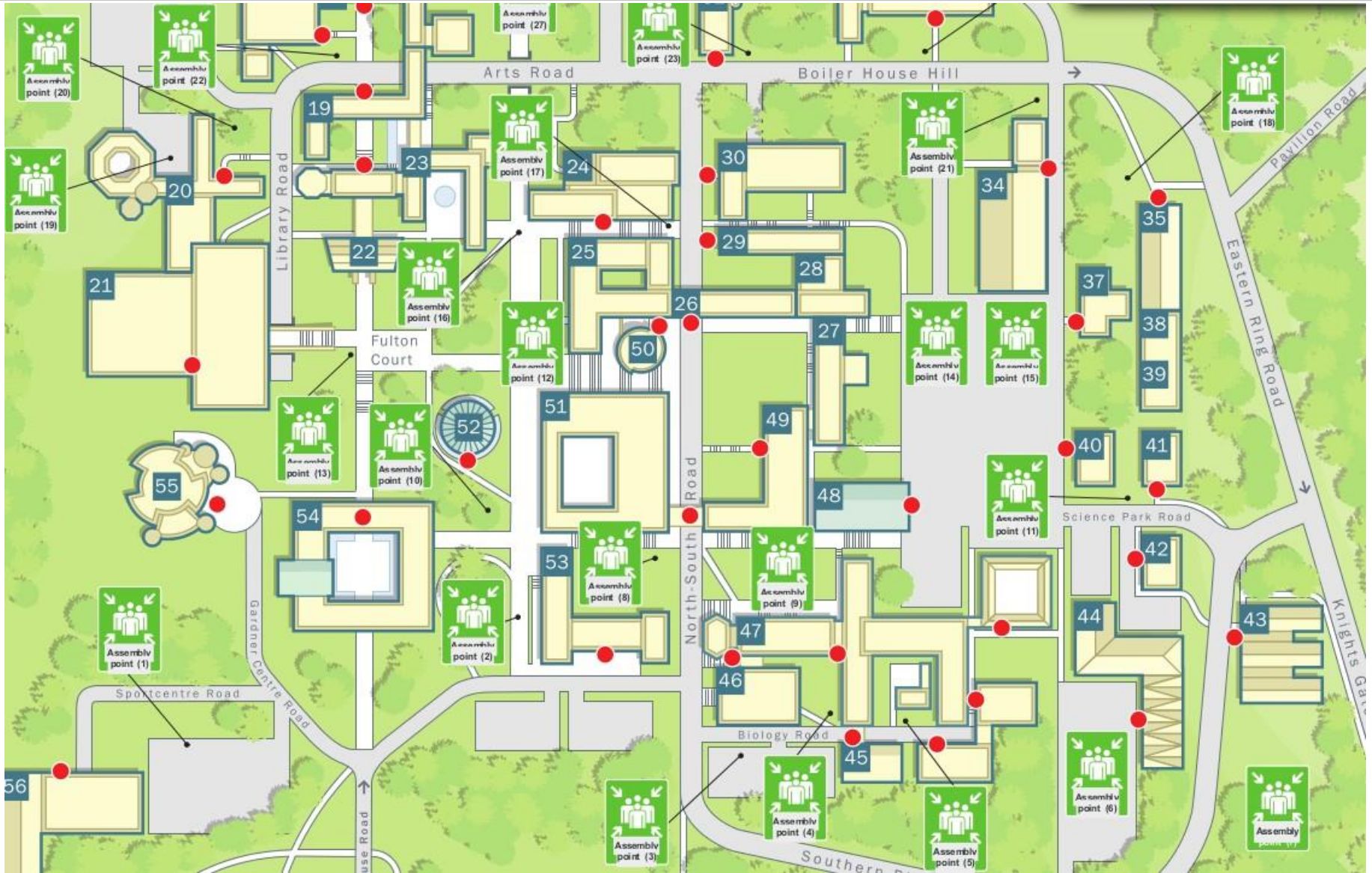
Following emergency evacuation from Pevensey 2 or 3 buildings, please:

- Exit via a designated fire exit
- Make your way to the front of Pevensey 2 at the bottom of the steps
- Safely cross the road to stand outside
Chichester lecture theatre



From:

www.sussex.ac.uk/hso/healthandsafety/fire/fireassemblyandcontrolpoints



Default assembly point for Pevensey 2





Currently the 'official'
assembly point for
Pevensy 2.

Other assembly points around Pevensey. If you use these, it is unlikely that anyone will come to give you the 'all clear'. You should walk around to the default assembly point.



If You Discover A Fire

Sound the alarm;

Never put yourself at risk!



- Do not attempt to extinguish the fire unless you are specifically trained to do so and the appropriate extinguisher is available.
- If possible, call the emergency number **3333 (or 01273 873333)** from a place of safety and give details of the fire and its location to Security
- Evacuate and report to the Fire Control Point – front of Pevensey 2.
- Never allow the fire to get between you and your exit!**

Emergency Evacuation

Do not tackle a fire unless you are trained in the use of fire extinguishers

Do not use lifts

Do not re-enter the building until instructed to do so by the person in charge

Fire Alarms

Fire alarm tests in Sciences buildings will be carried out, as follows:

Chichester 1-3	Thursday	9:30
Arundel	Thursday	9:30
Pevensey 1-3	Thursday	9:30

If you notice any malfunction of an alarm, please notify your safety coordinator(s); Cassandra Churchwell – c.churchwell@sussex.ac.uk or Gemma Harman (12/2/18+)

Take that fire alarm seriously...

1. It could be a genuine emergency!

Research has shown that the best predictor of survival in a fire is the time taken to recognize the emergency and move!

2. A well-practised drill saves lives

Example: 9/11

The World Trade Centre, New York, was bombed in both 1993 and 2001. After 1993, they developed a well-practised drill to increase exit times. If exit times in 2001 were the same as 1993, many more people would have died.

People requiring assistance (injured, disabled, etc.)

- Make sure you have an escape before helping anyone. It sounds harsh but, if helping someone else puts you in serious danger, you should save yourself.
- There are 'safe' waiting points in the building for disabled people. In most cases the people in question will know where to go. These are typically at the landings in the stairwells.
- Tell the fire warden where the person is and let the fire brigade help them out.

Safety Signs

Across the campus look out for signs warning of hazards or giving useful information



Eye protection
must be worn

BLUE = Compulsory

Failure to comply not only puts you at risk, but also means you've broken the law.



DANGER
Acid

YELLOW = Warning

Failure to take notice could put you at risk.



GREEN = Safety guidance

First Aid, Emergency Exits, Assembly points



No
smoking

RED = Prohibitive or Fire



Fire alarm
call point

Risk Assessment

‘A planned process during which hazards are identified and the extent of the risks involved are evaluated, taking into account existing precautions and their effectiveness’.

‘Hazard’ – something with the potential to cause harm

‘Risk’ – a combination of the likelihood and potential severity of harm from a hazard being realised

All activities taking place on campus must be risk assessed and the risks reduced to an acceptable level, where possible, by means other than personal protective equipment. Training on assessing risk is available from the Health and Safety Office.

Risk Assessment

Event/Task: 2nd year experiment – Guitar

Date of Assessment: 11th January 2012 – Reviewed 23rd September 2013

Assessor: Miss Maria Brook

Specific Activity	Hazard	Who Could be Affected?	How?	Risk Controls	Rating*			Is Residual Risk Tolerable? (Yes or No)*
					S	L	R	
Guitar	Electricity	Staff, Students	Electrocution	Unit maintained and portable appliance tested. Safety note included in student lab script. An experienced demonstrator will always be present within the room.	5	1	5	Yes

* Ratings – (S) Severity, (L) Likelihood, (R)Residual Risk

* Is Residual Risk Tolerable - If "no" - further controls should be introduced and the risk re-assessed. If risk remains intolerable then specialist advice should be sought PRIOR to the activity going ahead.

Manual Handling

Many accidents on campus result from manual handling operations – moving an object using human effort - including lifting, lowering, pushing, pulling or carrying.

Always assess the task before you move anything;

Use lifting equipment provided (eg cylinder and sack trolleys);

Seek help, if required, from the Porters (ext 3718, based in Richmond)

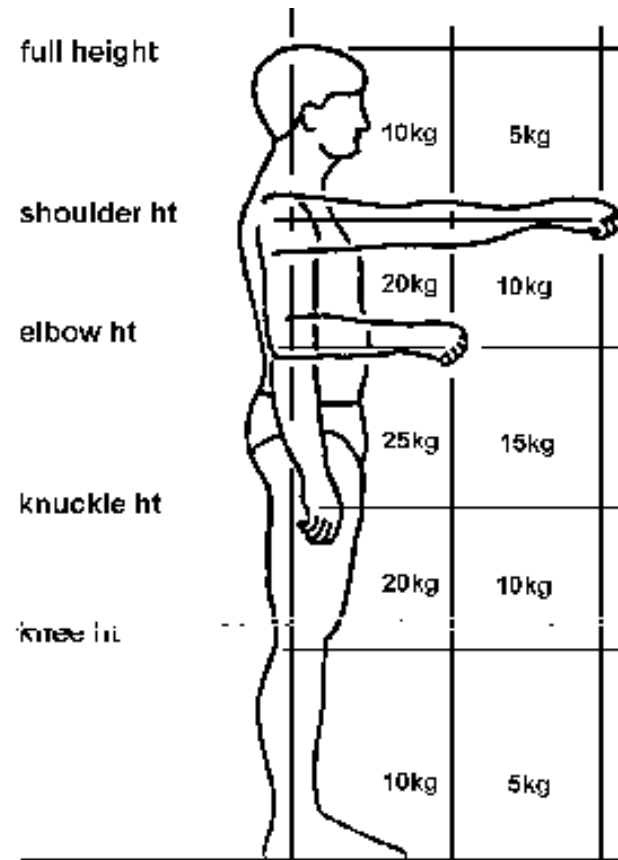
Follow this link to view the University Manual Handling Policy and associated information.

www.sussex.ac.uk/hso/specialist/correctmanualhandling

Manual Handling – Suggested maximum loads

This diagram is only intended as a guideline and factors such as age, gender, physical fitness and environmental conditions should also be taken into consideration.

There are University-run courses which will train you in more detail. If appropriate, your lab supervisor may ask you to obtain this training.



Hazardous Substances

If you will be using hazardous substances during your work or study, you should expect specific training on this.

Personal Protective Equipment (PPE)

Many staff and students need to wear appropriate and relevant protective clothing and eyewear to carry out their work and studies. You will receive information about this, if this applies to you. These requirements are generally covered in the ‘local rules’ within your lab.

Electrical Safety

All electrical equipment on campus should be tested and be electrically safe – this includes any personal equipment brought on to the premises. Contact the School Administrator to arrange for testing of electrical equipment.

Don't overload sockets.

Avoid the use of extension leads and trailing cables which may present a trip hazard and are susceptible to damage.

In particular, never 'daisy-chain' extension cords. This is a no-no and we will be cited for it if discovered during a H&S inspection.

Special Equipment Safety

Most laboratories have specialized equipment with specific hazards. In most cases there will be a separate RA for the equipment, usually requiring you to undertake some training before using the equipment.

There are special courses for Laser Safety and Radiation work.

It is your duty to follow the local rules, obtain the necessary training and follow the University guidelines in all cases.

Communicable Diseases:

Please stay home when ill! Call in sick.
Many of us can work from home.

Teaching is a special case: generally, if you can call in early enough, someone else can cover for you.

Pregnancy and other temporary conditions:

Let us know so we can assist as much as possible. We can typically assist with a place to rest and other reasonable adjustments, if you ask.

You may need a Personal Emergency Evacuation Procedure (PEEP) if your mobility is impaired – eg. if you break a leg.

General Safety Considerations:

Walk, don't run.

Be especially vigilant on stairs.

Make sure you can see where you are going; be careful about texting while walking, carrying bulky loads which obstruct your view.

Ask for assistance, where appropriate, and use lifting equipment rather than attempting to 'manhandle' heavy/bulky items.

Safety In Labs

- Use common sense!
- Lasers
- Radiation
- Cryogenics
- Chemicals
- Gas cylinders/pressure vessels
- Moving parts (machines)
- Hoists/lifting equipment
- High voltage

Lone Working

- University policy is to limit ‘lone working’ as much as possible
- Avoid hazardous tasks when alone – basically, anything which scores higher than a 5 on the risk assessment
- Local rules apply

Working After Hours

- The buildings are usually locked at 6pm. You can, of course, continue to work as late as you like – taking into account the lone working rules.
- Anyone with a mobility requirement should contact Dr Cassandra Churchwell and arrange for a ‘Personal Emergency Evacuation Procedure’ (PEEP) to be written.
- Anyone with other health issues should also inform one of the safety coordinators so we can assess any special precautions needed.

Travel

All travel must have a risk assessment. This is the responsibility of your supervisor, but you should be aware of what the assessment contains. It's not helpful unless you see it! Ask to see it before travelling.

You are also required to apply for travel insurance prior to travelling. This will cover you for a variety of situations. Talk to your supervisor or Gemma Harman, School Administrator, for details.

Note: *If driving your own car, you must get business insurance or you will NOT be covered!*

You should expect to undergo additional training at most external sites (eg. CERN, SNOlab - all require site-specific training and the RAs will reflect this.)

Display Screen Equipment

Employees of the School who will be using display screen equipment, such as a personal computer and monitor, as a routine part of their work activities should undertake the online assessment tool and note any actions to their supervisor or line manager:

www.learninglink.ac.uk/keepfit/index.htm

Follow this link to view the University Display Screen Equipment Policy and associated material:

www.sussex.ac.uk/hso/policies/hsopolicies

Smoking Policy

All University buildings are smoke free

- Smokers should be at least 3m away from a building
- Try to avoid areas near doors, open windows and air inlets
- Be considerate
- University policy treats e-cigarettes as identical to regular cigarettes

Environmental matters: Waste/Recycling

- Always consider disposal costs/methods **before** purchasing or bringing equipment/substances on the premises.
- Only buy as much as you need – reduced costs for bulk buys may well be a false economy when you consider subsequent disposal costs!
- Dispose of waste in the appropriate manner; radioactive waste, clinical waste, etc. Ask if you are unsure of the appropriate waste stream.
- Recycle wherever possible

Environmental Matters: Utilities Conservation

Cost of electricity and gas to the University is in the £millions!

- Save energy by switching off lights and equipment when not needed
- Equipment left in stand-by mode still uses energy
- Switch off equipment not in use overnight and at the weekend
- Enable the hibernate functions on your pc and monitor (contact ITS if you need help with this)
- We also pay for water – so use it wisely and report any leaks or wastage

Teaching

You are in charge of the students and are responsible for describing the fire escapes at the beginning of a class.

You are **not** the fire warden.

Maintenance Requests

Please send these to mps-sef@sussex.ac.uk or to Dr Cassandra Churchwell rather than the Service Centre

Emergencies

Call **3333** or **7777** (depending on emergency)

If something does go wrong or you simply require advice, contact one of the MPS Safety Coordinators:



Dr Cassandra Churchwell 5A42B

c.churchwell@sussex.ac.uk

**Gemma Harman 3A20 (main office)
Starting 12/2/18**

Your best chance to avoid accidents is to use common sense!

The person who can keep you safest is you.

Always think before you act.

Do your own risk assessment in your head before doing anything.

Remember you are responsible for yourself and everyone around you. If in doubt, ask before trying something silly! There are lots of people who can help; we're here to teach and are happy to share our experience.

**For further safety information,
please access the Health and Safety website at:**

www.sussex.ac.uk/hso

Your actions:

- ***Familiarise yourself with your nearest emergency exits***
- ***Carry out the online DSE assessment***
- ***Read the local rules and RAs in your lab***
- ***Complete the Laboratory and Office Safety Briefing form
and return to Dr Cassandra Churchwell***