

Biomedical Engineering Research Group

Level 706 Labs

Rankine Building

CODE OF PRACTICE

The adoption and practice of good safety procedures is of paramount importance both for the health of fellow workers and for the integrity of the fabric of the laboratories in Biomedical Engineering.

1) No work may be carried out in the Biomedical Engineering area of the Rankine Building without the prior permission of Professor Thomas Franke or Andreas Link.

2) No work may be carried out until all necessary safety documentation has been read, understood and the safety book signed. New staff and students should also make themselves aware of the positions of safety equipment in the various labs.
These are:

Emergency telephone number is **4444**
Fire Extinguishers (corridor, room 706C)
First Aid kit (corridor, room 706C)
Eye baths (door between 706A and 706C)
Emergency shower (706A)
Safety goggles (706A, 706C)
Emergency Exit (emergency door in 706A)

All new staff and research students will fill in the safety documentation which can be found on the James Watt Nanofabrication Centre website before being trained in cleanroom techniques. <http://www.jwnc.gla.ac.uk>

3) Any work outwith '9 to 5' requires discussion with Prof. Thomas Franke or Andreas Link and explicit permission obtained before out of hours running of experiments is undertaken. Working alone is not recommended if doing any of the following procedures; (i) organic synthesis or chemical manipulations; (ii) using high voltage power supplies. If you are working in the cell culture lab or a dark room be aware that others may not know of your presence. No one is to work alone when using hazardous materials or processes.

4) Lab coats or other protective clothing, as required, must be worn at all times in the lab. Where necessary, safety spectacles must also be worn.

5) If anyone wishes to use new or additional procedures (biological or chemical) they MUST inform their supervisor or lab. staff of this BEFORE ordering any chemicals, biochemicals, cell lines etc., or starting the practical work. A COSHH Form or risk assessment must be completed using the School web based database and approved by their supervisor and the level 7 BME laboratory responsible (Thomas Franke). For work involving genetically modified material, a GM risk assessment must also be completed. Also, people should e-mail others in the group if performing a new and particularly hazardous procedure.

6) Any work with solvents, corrosive chemicals, concentrated and moderate strength acids and alkalis must be carried out in the fume cupboard with safety glasses and disposable gloves worn. Used gloves and paper towels must be put into the bin bag.

7) Waste solvents must be disposed of into the waste bottles located in the fume cupboard. Acetone, Methanol and Iso-Propyl Alcohol poured into the UNCHLORINATED waste. Chlorobenzene poured into the CHLORINATED waste. NEVER add acid or alkalis to these bottles.

8) Organic solvents must never be heated on the hotplate.

9) Acid should be disposed of in the fume cupboard as follows:

Fill the sink with water then slowly add the acid to the water to dilute, and then allow the dilute acid to drain away.

10) In the event of an acid or alkali spillage on anyone immediately soak the affected area with water using the shower attached to the fume cupboard.

In the event of an accident or mishap tell someone, preferably one of the lab. staff, supervisor or colleague.

If you find yourself following a possibly unfamiliar procedure or performing an experiment and are unsure of what to do next or if something is going wrong, seek assistance from somebody rather than end up having an accident.

11) ALL containers, beakers, bottles etc. must be correctly labelled with owner's name, date and contents. Unlabelled containers or those not properly labelled will be thrown away.

12) ALL used glassware must be rinsed and placed in the detergent basin after use.

13) All non-contaminated broken glassware, slides and coverslips must be disposed of in the waste glass box. All sharps i.e. scalpel blades, hypodermic needles and blades should be disposed of in the small sharps box. Waste syringes (non-contaminated) should be put in the bin.

14) Personal belongings such as bags and coats should be stored in owner's office or under a bench, not left on the open floor. Books and paper in the labs should be kept to a minimum.

15) Soldering Irons must not be left on when not in use.

16) No food or drink may be consumed in the laboratory.

Biological Culture Labs

17) All cell culture work must be carried out in the laminar flow cabinet.

18) All waste products from cell culture work i.e. plastic petri dishes, pipettes and glassware must be placed in the Biological Waste containers which are uplifted by Industrial Waste Contractors.

19) Any spillage of cell or bacterial culture must be treated with bleach, mopped up with paper towel and treated with alcohol. Waste paper must be put into the Biological Hazardous Waste containers.

20) NEVER mouth pipette, use the pi-pumps provided.

21) Only essential material should be stored in the fridges as space is limited.

22) Anyone using Blood products must inform Prof. Thomas Franke or Andreas Link before proceeding. All work with blood must be carried out in a contained environment (e.g. a laminar flow hood) and waste products disposed of safely.

23) Anyone working with viruses and other microorganisms must follow the guidelines set out in COSHH form. Only those working with these materials are allowed in the room during such work. Disposal of virus, microorganisms (e.g. bacteria and cell cultures) and associated waste products should be soaked in Virkon.

Final points for all labs.

Anyone storing material in fridge/freezers should try to keep this to a minimum; there is limited scope for long term storage.

To minimise dust etc. on benches bench tops will be cleaned monthly it is your responsibility to clear the bench beforehand. Keeping a minimum amount of paper in the lab reduces dust

If any equipment breaks or is not working tell the level 706 laboratory responsible (Prof. Thomas Franke or Andreas Link) immediately.

Additional safety information covering the use of the Chemistry and various categories of Biological and Laser rooms is given in other documents either on the Safety Website or e-mailed to you by Andrew Glidle or your supervisor.

Measures in place during the COVID-19 phased re-opening of laboratories:

An overall COVID-19 code of practice and risk assessment for the School of Engineering and the University can be found on the School safety and SEPS websites:

<https://www.gla.ac.uk/schools/engineering/informationforstaff/safety/>

<https://www.gla.ac.uk/myglasgow/seps/>

Everybody should read these documents as well as this one and e-mail Thomas Franke to say that they have done so.

Below is a bullet point list of COVID-19 working arrangements.

Logistical Arrangements:

- 1) Room occupancy: For Rm 706B the occupancy will be one person, for the main lab room 706A two persons and 706C no person. (this room is just for thoroughfare and for collection/placement to the fridge). The door in 706B needs to be closed when using this lab and Laser light switched on to indicate a working person. If two people are working in Rm 706A they need to use the different work benches which are separated by the storage shelf.
- 2) Once you have left the floor, you should exit the building via the back stairs, into the carpark, following the green arrows on the floor, and not leave via the normal level 4 foyer route.
- 3) To avoid passing each other, if people see someone coming towards them in the corridor, one or other should momentarily move into one of the side corridors or a larger lab.
- 4) Access to carry out work in labs: Supervisors will discuss with their groups who should work in the labs on particular days/weeks and send this information to Thomas Franke to pass on the School administration; note, to minimise travelling, and office occupancy, it will not be possible for a succession of different people to do lab work for short periods of time e.g. if the lab work only takes an hour, then that hour will use a whole shift, in terms of the regulation of numbers above.
- 5) Out of hours access: Normal restrictions apply and people need to inform the security if they plan out of hour work. The list at the Janitor's desk is not in use at the moment and Security needs to be made aware of occupancy out of hour.
- 6) Rest Areas: Offices on levels 4, 5 and in Oakfield Avenue will not be available and people should use space in the level 7 coffee room (Rm 743), taking care to distance themselves from others and to wipe down the areas when leaving (see below). Note, there is very little space in these rooms and so you should contact Thomas or Andreas if you find the rooms are over used, and arrangements can be made for additional space to be allocated.
- 7) Cleaning communal touch surfaces (handles, benchtops etc): At the end of each shift, these should be wiped down or sprayed with a 70% alcohol solution, either by a volunteer or on a rota basis.
- 8) Contracting COVID-19 or feeling unwell at any time: If you think you have contracted COVID-19 or feel unwell, you should contact your supervisor (who in turn will contact Andrew Glidle and Cyril Pacot), and attempt to get a diagnostic test.

Protocols for hand washing, glove and non-surgical face mask wearing and cleaning.

- 1) Hand washing and gloves: Gloves are not required specifically for mitigation of COVID-19 transmission or contraction, but will often be worn during the normal course of your work. To mitigate COVID-19 transmission or contraction people should: A) use alcohol hand gel at the entrance to the suite of labs before entering the level 8 corridor (if this is not available, then people should wash their hands at the sink in the lab they are working in, or a nearby large lab). People should also wash their hands with soap and water or alcohol gel when entering a particular room to perform a specific task.
- 2) Cleaning equipment, lab utensils and surfaces: Equipment, utensils (e.g. pipettes) and surfaces that you are using should be cleaned at the beginning and end of a

shift (or before another person uses them in the case of communal equipment), using alcohol based wipes or sprays.

3) Wearing of face coverings (non-surgical masks): These should be worn when in the corridor, when working in multiple occupancy labs or when working in single occupancy rooms that are used by multiple people on the same day.

4) Use of optical microscopes: Oculars will be removed and observation of samples should be via eyepiece cameras or the CCD normally attached to the microscope.

General Covid-19 measures:

Guidance from the HSE, UK Government and Scottish Government to manage the risk related to Covid-19 pandemic must be applied to the Lab 706 A,B,C. These include physical distancing, frequent hand washing and hygiene measures, cough etiquettes and face covering in enclosed public space. Considerations for codes of practice and risk assessment for the School can be found at the links provide above and need to be carefully read.