

General guidelines for Silwood Park field experiments and collections

This document explains what the Silwood Park's Research & Management committee expect from researchers and students working in field experiments, doing any field data collection or teaching at Silwood Park grounds.

1. We want to coordinate experimental work at Silwood Park campus with the purpose of both preventing that new experiments disturb ongoing long-term research or preservation areas within the campus, and ensuring that the history of manipulation of each area is available for future research, teaching and maintenance. To accomplish this we maintain a database of field research projects and teaching practicals describing their objectives and methodology. Approval by the Silwood Park's Research & Management committee is required for projects using Silwood Park grounds. Please send an application form to the Ecological Analyst and Facility Manager (Catalina Estrada, c.estrada@imperial.ac.uk), at least three weeks before the starting date for fieldwork. The application can be found here:

<http://www.imperial.ac.uk/silwood-park/research/field-experiments/>

2. We want to safeguard ecological data collected in the grounds of Silwood Park for its long-term preservation and use in research. More than 50 years of active ecological research as well as a well-known history of the grounds make Silwood Park an invaluable resource for field studies. A data repository has been created to save data and metadata from long and short-term experiments carried out in Silwood Park grounds. From 2016 all field experiments carried out in Silwood Park grounds will require to deposit data and metadata in this repository. The **Data Policy** document is included in the next section.

3. We want to preserve the integrity and value of Silwood Park grounds. In particular we aim to ensure that the grounds are restored to their former state once projects are finalised. We will discuss with the Principal Investigator of each project about the conditions we expect to find after the conclusion of experiments and the financial responsibility for the removal of labels, structures, or added organisms (e.g. planted vegetation).

4. We want to ensure the health and safety of all those working and carrying out research in the Silwood Park grounds. This is achieved by following the health and safety guidance and ensuring risk assessments and appropriate arrangements are reviewed and agreed as part of the approval process for carrying out fieldwork. The **Health and Safety Procedures** are included in the next section. Please send the health and safety risk assessment document to the Ecological Analyst and Facility Manager (Catalina Estrada, c.estrada@imperial.ac.uk) along with the project application. A risk assessment form can be found here: <http://www.imperial.ac.uk/silwood-park/research/field-experiments/>

Clearance at the end of experiments is required for all studies using Silwood Park grounds. This will acknowledge that data and metadata for field experiments has been deposited to the Silwood Park data repository and that the study area has been cleared from experimental materials. Please contact the Ecological Analyst and Facility Manager (Catalina Estrada, c.estrada@imperial.ac.uk) for submission of data and metadata and to plan a visit to the study site once the project has finished and the area has been cleared. Any area that is not cleared will result in the costs of clearance being passed onto the project academic supervisor.

The construction of Silwood Park Database and management of Silwood Park field research is a dynamic process, which we have just started. We welcome any comment or suggestion that help to make this process easier for data donors, field and data users. For any comment or inquire please contact Catalina Estrada (c.estrada@imperial.ac.uk), Academic lead of silwood Park or Stefan Hoyle, Head of Health & Safety Faculty of Natural Sciences (s.hoyle@imperial.ac.uk).

Data policy

This document explains the policy that the Silwood Park's Research & Management committee is implementing to ensure data ownership is granted and data is appropriately used and interpreted. Unless otherwise agreed, information explaining which data is available (metadata files) will be accessible to the public through the Silwood Park website.

1. Data Creator Rights and Obligations

Each dataset will designate a principal investigator (PI) to whom the Silwood Park Long Term Experiments Working Group (LTE) will first contact to discuss anything related with the data or experiment. PIs have the right for their data to be restricted to public access for the period of time stipulated in the Usage rights section of the metadata file. After this expiration date and if an extension of the embargo has not been requested and granted by the LTE, data becomes Open access. PIs have the obligation to communicate with other investigators involved in the research about any agreement reached to release data or changes in the restriction expiration date. LTE ask data owners to kept up to date contact information and communicate with LTE about any use of data that has been produced through their own collaboration networks.

2. Data Access

All data sets will be classified as either open or restricted access.

- Open access: data that is freely distributed by request. A request form that contains information describing the intended use of the dataset needs to be filled and sent to the Ecological Analyst and Facility Manager (find the form here: <http://www.imperial.ac.uk/visit/campuses/silwood-park/research/field-experiments/>). The LTE then decides whether to grant the request and inform the dataset PI about the planned use. LTE ask that data is not redistributed without authorization and that the proper citation and acknowledgments are given in any publication where data is included. The particular citation information is contained in the metadata file. LTE also recommend to be contacted by users before any publication to ensure data has been interpreted correctly.

- Restricted data: Data that is not released without the approval of the dataset PI. Request for restricted data uses the same form as for open access data but this is forwarded to the PI of the dataset. LTE would release data after the PI has discussed with intended users the terms of collaboration and authorship of any resulting product. As for open access data, LTE ask for not distribution of data to third parties and the inclusion of an acknowledgment statement of the database in any publication.

Check the college policy in data management here: <http://www.imperial.ac.uk/research-and-innovation/support-for-staff/scholarly-communication/research-data-management/>

Health and Safety Procedures

The procedures detailed below must be followed when doing fieldwork experiments, trials or other work in the grounds of the Silwood Park campus.

1. It is the responsibility of the academic supervisor to ensure the fieldwork risk is assessed appropriately.
2. A copy of the completed health and safety risk assessment document is to be completed by the individual(s) carrying out the work and approved by the academic supervisor (find the form here: <http://www.imperial.ac.uk/silwood-park/research/field-experiments/>) Then, it must be sent along with the 'Application form to conduct fieldwork at Silwood Park Campus' to the Facility Manager. Once both documents have been reviewed and approved the work can start.
3. While engaged on College activities such as travelling to and from research areas and conducting fieldwork, researchers must comply with the College Lone Working Policy (<http://www.imperial.ac.uk/safety/safety-by-topic/lone-working/>).

At Silwood, there are a number of risks associated with lone working in the grounds.

- Tripping and falling is the most likely cause of injury during fieldwork. Should this occur, for example twisted or broken ankle or falling and striking your head and becoming unconscious, and the researcher cannot call for help or no one knows the researcher is carrying out fieldwork the consequences are likely to be severe. Similar results can be expected if researchers have an underlying health condition, which might put them at increased risk, for example a condition causing fainting or similar.
- There is also a low risk to personal security. Unauthorised persons have been known to hunt illegally on the grounds using shotguns; and there are also footpaths across the grounds where any member of the public can get access.

4. The Principal investigator or academic supervisor must give lone working consent via the College online system if lone working is intended on Silwood Park grounds (<https://www.imperial.ac.uk/safety/safety-by-topic/lone-working/applying-for-lone-working-consent/>). To allow lone working specific control measures are expected to be implemented. For example, one or more persons need to be selected who will know the researcher location while doing fieldwork and the expected completion time. They should ideally know your project or campus grounds (e.g. PI, lab mates, a friend or the Security office). Make sure this person raises the alarm and contact Silwood security at the emergency phone number (0207 594 2444). Lone working alarms are also available, see: <http://www.imperial.ac.uk/safety/safetyby-topic/lone-working/lone-working-alarms/>

6. Poachers with shotguns and traces of activity from people outside the college have been reported in the past. Please, do not confront any stranger and report anything suspicious to security (phone 020 759 42444).

7. Get familiar with the campus, the ongoing field research and the marks and tags used by field experiments. Maps and diverse information experiments can be found here: <http://www.imperial.ac.uk/silwood-park/research/field-experiments/>

HAZARDS CONTROL MEASURES THAT ALL THOSE WORKING ON THE CAMPUS GROUNDS MUST ADHERE TO

General when working at Silwood grounds

- Carry a mobile phone and make sure it is charged. Add the College emergency response App SafeZone which can be downloaded on iOS and Google Play stores for Apple and Android devices. Alternatively add Silwood Emergency phone number (**0207 594 2444**) to your phone contacts – make it a 'speed dial'
- Get familiar with field and woodland names and with areas of potential risk (e.g. bogs). Get a map here: <http://www.imperial.ac.uk/silwood-park/research/field-experiments/>
- Get familiar with ongoing field research as well as the marks and tags used by field experiments (<http://www.imperial.ac.uk/silwood-park/research/field-experiments/field-signs-and-markings/>). In particular, check for the areas of grasslands with iron rods buried in the soil that mark current or former research plots. Please walk carefully as some rods are unpainted, are under thick vegetation and uneven floor and are difficult to see. If unsure, ask the Ecological Analyst and Facility Manager.
- Be especially aware of your surroundings when working alone or/and in isolated areas (where you may not be readily heard or seen if you are unable to move or call for help, and where it may be difficult to reach you or get help to you)
- Please do not confront any stranger and report anything suspicious to the Silwood Emergency phone number.

COVID19

- Where possible maintaining to 2 m social distance. Where not possible when working in groups use face coverings.
- Ensure all those taking part use hand sanitiser (and / or wash hands) regularly and before handling equipment and when they have finished in the field.
- If showing signs and symptoms or have a positive test do not come to campus and follow College protocols.

Working alone

- If you cannot avoid doing fieldwork alone, this must be approved by the Academic Supervisor or Principal Investigator and consent to lone work given via the College electronic system.
- Choose one or more persons who will be informed of your location while doing fieldwork on the campus grounds and your expected completion time. They should ideally know your project or the campus grounds (e.g. PI, lab mates, a friend or the Security office).
- Sign out with security to tell them the location, your mobile contact number, and the expected time you will be finished. Upon finishing the fieldwork, the researcher signs in at the security office to let them know they have finished.
- Lone work is not allowed on campus if working at height, for example using ladders or climbing.

Biting and stinging insects

- Wear suitable shoes and clothing to reduce exposed skin (trousers, long sleeves, sturdy boots etc).
- Use insect repellent when necessary.
- Check for wasps, bees and hornets before disturbing vegetation.
- If you know you are allergic to wasp or bee stings, make sure your contact person and / or companion are aware of this and know what action to take when you raise the alarm. Take any medication you may have for this with you.
- Check for ticks (the nymphs are tiny), particularly after having been working in woodland / bracken or grassland. If any are present remove them with tweezers or a tick removal device.

Lyme disease

- Ticks can transmit Lyme disease. In addition to the general precautions above ensure you:
- Inspecting your skin for ticks, particularly at the end of the day, including your head, neck, and skin folds (armpits, groin, and waistband),
- Check that ticks are not taken home on your clothes
- If you develop any of the symptoms below contact your GP and Occupational Health at the earliest opportunity:
 - Red skin rash that looks similar to a bull's eye on a dart board. However, if Lyme disease is left untreated, further symptoms can follow including:
 - High temperature (fever) of 38C (100.4F) or over,
 - Muscle pain,
 - Joint pain and swelling

- Neurological symptoms, such as temporary paralysis of the facial muscles.
- A person with Lyme disease is not contagious because the infection can only be spread by the ticks.

Weil's disease (leptospirosis)

- Bacterial infection carried by animals like rats and cattle can be transmitted to humans if contact with animals' urine (e.g. water or soil)
- Flu symptoms and maybe rash can occur 3 to 21 days from time of infection to be followed by jaundice (yellow skin and eyes) or more severe symptoms.
- Precautions if working in water include
 - Cover open wounds and scratches with waterproof plaster or use protective clothes/gloves
 - Wash thoughtfully after contact with water

Weather conditions

- Check for any extreme weather expected (lightning high winds etc)
- Do not work in the field during thunderstorms. Find a safe place away from trees (e.g. a shed) if you are in a situation where you cannot get to safety call security.
- Keep a safe distance away from the tree line during strong winds to avoid falling branches.
- For hot weather conditions take bottled water, wear sunscreen, cover up and wear a hat. Try and plan work for the cooler parts of the day.
- For cold weather wear suitable clothing, waterproofs take a warm drink.

Infections from soil pathogens

- Ensure your tetanus injections are up to date. Tetanus is caused by the bacterium Clostridium tetani, which is found in soil and animal manure.
- Wear suitable gloves (disposable lab gloves may not be appropriate so ensure you have heavy duty gloves where required).
- Cover any cuts or grazes on hands before doing work
- Upon completion of work always wash hands as soon as possible, particularly before eating or drinking.

Injuries from manual handling issues (in addition to any activity related manual handling risk reduction measures)

- Where appropriate use a trolley, barrow or similar equipment to move items
- If work involves large volumes or heavy material, get help to share the load.
- If travelling over distance with heavy loads use a pre determined route that has minimal obstructions
- Take regular breaks from repetitive tasks

Driving

- If using personal vehicle check with insurer that you are covered for 'occasional work use' or similar
- Ensure the vehicle is in date for tax, MOT and insurance purposes
- Ensure the vehicle is suitable for the terrain you are travelling over
- Always wear a seat belt (front and back)
- Ensure items in the car are held in place and secure.

Tools and equipment e.g. post hole borers, forks, spades, shears, broken pots, other sharp tools

- Check all equipment for general condition before use. If in a damaged or unsafe condition do not use.
- Ensure any blades etc are covered appropriately during transport to and from the site.
- Wear suitable gloves, sturdy shoes, trousers and long sleeves. Additional protective equipment may be required depending on the hazards identified in the activity section.
- All electrical equipment used in the field must have been electrically tested (normally at least within the last year) and be appropriate for the activity required.












Working at height

- If the work requires you to work at height all equipment being used must be suitable for the task and in good condition.
- Ladders and stepladders must be registered with the Dept. Ladder Assessor before use (contact Technical support to register a ladder or step ladder).
- A separate assessment for working at height must be completed.
- Work at height is not allowed if lone working.
- Work at height must be preapproved by the Faculty Safety Team.

Chemicals and other hazardous substances

- Ensure all hazardous substances are assessed before use
- Use the College COSHH assessment to identify appropriate control measures
- Ensure hazardous substances are appropriately contained during transport and use.

Marks and sign in Silwood Park field studies

Mark	Location	Experiment	Description
	Nash's Field, Rookery slope, Heron's Brook	Nash's Field, NutNet, BugNet	Colour-coded metal rods mark plots location
	Several around Silwood Park	Ecological Fractal Network	Red flag, metal tag and plastic tape mark 1m ² plots
	Nash's Field	Nash's Field	Wooden posts mark the corners of unfenced plots
	Several around Silwood Park	Blue Tit nesting behaviour	Nest boxes
	Pound Hill Field	Mesocosm Facility	Artificial ponds
	Several around Silwood Park	Blue tits nesting behaviour & mouse project	Metal and plastic tags on trees
	Several around Silwood Park	Blue tits nesting behaviour	Tape around tree trunks
	Nash's Copse	Mouse project	Flag
	Gunnes's Hill	Root electrotropism	Plastic signs, several colours
	Nash's Copse	Mouse trapping network used by former Mouse project	Wooden box set as trap shelter
	Nursery Field, and other locations	Reptile survey	Reptile mats