**Otago Centre for Electron Microscopy**

**Policy Booklet**

**Introduction**

**This document contains the various policies that govern both access and usage of the Centre. This document must be read, and clearly understood, before any work can commence in the Centre.**

The Otago Centre for Electron Microscopy (OCEM) houses five electron microscopes and a wide range of preparation equipment. It is located next to the Otago Centre for Confocal Microscopy (OCCM). These two centres provide a comprehensive and complimentary advanced microscopy facility.

As a regional resource, the OCEM is accessible to all members of the research community. Researchers from departments contributing to the OCEM club are given priority during times of heavy usage.

The host department for administrative and house-keeping purposes is the Department of Anatomy.

The OCEM is additionally administered by a User Committee which is a forum for OCEM users to contribute to OCEM strategic support and planning, and a Management Committee to address operational issues. Please refer to appendix A for lists of committee members.

The Centre tries to be as responsive as possible to the needs of investigators. If there is an item of equipment you feel would be useful, a technique you feel we should provide, or some other aspect you feel could be improved, please let a staff member know.

1. Access to the Centre.

2. Training in Techniques and Equipment Usage.

3. Equipment Usage and After Hours Usage.

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**1.** **Access to the Centre**

Staff and students wishing to use the facilities in the Centre must first contact the Technical Manager to organise a meeting and complete a 'Project Registration Form'. This form can be picked up from the Centre or downloaded from the Centre website at:

http://ocem.otago.ac.nz/registration.html

**For PhD, MSc, Honours/PGDipSci students:**  
To discuss the requirements of a new project with a staff member of the OCEM, it is expected that the lead supervisor(s), and supervisor(s) with EM expertise/experience, attend at least the first meeting along with the postgraduate student. A scheduled meeting may be postponed by an OCEM staff member if the supervisor(s) indicated above are absent from the meeting.

**For postdoctoral fellows, assistant research fellows and research technicians:**  
To discuss the requirements of a new project with a staff member of the OCEM, it is expected that the lead Principal Investigator, and other Lead or Associate Investigators with EM expertise/experience, attend at least the first meeting along with the staff member. A scheduled meeting may be postponed by an OCEM staff member if the investigator(s) indicated above are absent from the meeting.

At the first meeting, it is expected that an account code is provided for the new project to charge OCEM expenses to. The expiry date of this account code is also required. Authorization is also required from the lead supervisor or lead Principal Investigator that expenses accrued in the OCEM by the new project can be debited to the account code provided.

On receipt of the Project Registration Form an OCEM the technical manager will assign a contact person to the project. This person will be responsible for training and supervising the new investigator while they are in the Centre (see the additional information for more information about the role of the contact person).

The approval to use the facilities and equipment in the Centre without supervision (such as before 8:30 a.m. or after 5.00 p.m, or during the weekend) will only be given once competence has been proven. Prior to this, a new investigator is not permitted to work in the Centre unsupervised.

In some circumstances an approved investigator may wish to train a new investigator themselves. Approval to do this will only be given by the OCEM technical manager, and only after discussion with the appropriate contact person.

To comply with the Health and Safety Act 1992 all visitors to the Centre must be introduced to a member of the Centre staff, and the purpose of their visit approved.

**2. Training in Techniques and Equipment Usage**

The contact person will provide training in all the required electron microscopy preparation techniques, microscope operation and safety procedures required for the successful completion of your project. **No other person is permitted to train a new investigator** without the approval of the Technical Manager. This stipulation is to prevent damage to equipment, the dilution of knowledge and to maximise the productivity of the Centre.

The aim of the OCEM training is to enable investigators to obtain the skills to facilitate their ability to work as independently as they desire. Ongoing support and assistance is always available those who wish to achieve a higher level of competence or understanding of the techniques used.

**3. Equipment Usage and After Hours Usage**

Initially, a new investigator is not allowed to work in the Centre without supervision, and is not allowed to work in the Centre after hours. Approval to use the facilities and equipment in the Centre without supervision and/or after hours will be given by the appointed contact person or the technical manager, once competence has been proven.

It is the responsibility of all investigators to ensure that the equipment they use is left ready for the next investigator at the end of their session. In particular, rooms and equipment must be left clean, tidy and operational for the next user. Approval for access may be withdrawn in the event of investigators neglecting or damaging equipment, using equipment in an inappropriate manner or in a way for which they have not received training, neglect of safety and disposal procedures, or admitting unauthorised persons access to the Centre.

If an investigator has not used an item of equipment for a period exceeding **three months** they are not permitted to use that equipment until a refresher session has been held with either their appointed contact person.

A high degree of professionalism is expected with regard to equipment usage. Being a multi-user facility any equipment damage due to negligent or inappropriate use may result in other investigators research being compromised.

**4. Level of Support from Centre Staff**

The main functions of the Centre staff are to maintain the Centre facilities, train new investigators, develop new techniques and support undergraduate practical classes. It is not a function of the Centre staff to act exclusively as research support staff for individual investigators. However, as time permits, they are able to provide support to investigator.

It is assumed that prior to the submission of a proposed project the investigator will have completed a literature search to locate methodology papers for their particular specimen. The investigator should have a clear idea of the type of information they require and express this on the Project Registration form.

The investigator and the contact person should agree on a protocol for the microscopy work. It is important that the investigator and the contact person (or the OCEM technical manger) understand the aims and scope of the project before commencing work. The investigator is responsible for ensuring that the protocol is appropriate to their specimens, and will provide the answers they seek. It is also expected that the investigator understands the time, and processes involved in preparing a specimen for examination in the electron microscope. In the case where no protocol is forthcoming from the investigator, a suggested protocol can be devised. This will delay the commencement of the project and no responsibility can be taken for results that differ to that which the investigator envisaged.

The Centre staff can offer advice on the suitability of microscopy techniques, and on the quality of the microscopy data. Interpretation and analysis of images obtained from the microscopes is the **responsibility of the investigator**.

In the case of student investigators, it is assumed that the academic merits of the project have been discussed with their supervisor(s), and permission given to undertake the work.

**5. Level of Liability**

Work is undertaken in the Centre on the understanding that it will be done to the best of the Centre staffs' ability, and in good faith. However, the nature of electron microscopy is such that the various techniques do not always produce consistent or expected results. It is assumed the investigator understands this.

The Centre will not be liable for any delay, non-performance or loss of specimen arising from or attributable to circumstances beyond its direct control. Delays may result from, but are not limited to, inadequate instruction, equipment malfunction, delays in the supply of goods and services to the Centre, labour disputes.

The Centre will use its best endeavours to achieve the projects aims at the estimated cost and shall apply all resources which are necessary to achieve the project aims.

Any exceptions to the above apply only when the level of liability of the Centre has been agreed to by both parties after negotiation. The agreement must be in writing and signed by both parties prior to the start of the project.

**6. Safe Work Practices.**

The appointed Contact Person will introduce new investigators to the current Centre safety procedures and disposal methods. Failure to abide by the procedures in the OCEM’s Health and Safety Policy will result in access to the Centre being withdrawn.

Anyone who wishes to use the OCEM’s preparation facilities or laboratory MUST first undergo training by an OCEM staff member or the Sector Manager that covers the controls in the OCEM associated with the HSNO Act, Biosecurity Act and Health and Safety Act.

For approval to work in the OCEM you are required to declare on the Project Registration Form that you have read and understand the Health and Safety Policy and that you will read all supplementary health and safety documents supplied for specific practices. This declaration means that you will comply with their contents.

All investigators intending to bring infectious agents and/or hazardous chemicals to the Centre must first submit a ‘Letter of Intent' to the Centre Health and Safety Adviser, outlining the purpose of bringing such a specimen/chemical to the Centre, the risk involved, the precautions that will be taken to reduce the risk, the spillage mop up procedures and the disposal procedures that will apply.

For hazardous chemicals that are unknown to the Centre staff a Material Safety Data Sheet (MSDS) must be provided with a 'Letter of Intent'. The ‘Letter of Intent' must be approved by the Departmental Health and Safety Adviser and the Centre Health and Safety Adviser before the infectious agents and/or toxic chemicals can be brought into the Centre.

Any specimens requiring PC2 level containment conditions must have this requirement noted on the Project Registration Form.

**7. Issue of Keys and Centre Security**

Keys, door codes and swipe card access are available to approved investigators for access to the Centre, and for other locked resources as required. When the project is completed, all keys issued must be returned to the Centre.

Keys must never be passed to a third party. The Centre must be notified immediately if a key is lost. Do not share the door codes with others until they have completed their induction. You must abide by University policy that your ID card is for your personal use only and that you will not allow anyone else to use it.

When leaving the Centre during the day, and if no staff are around, you are required to lock the door that you leave by. This applies even if you are leaving for only a short period.

If you are the last person to leave the Centre at the end of the day please ensure;

- all the lights in the area you were working in are turned off

- any gas outlets you may have used are off

- all taps are turned off, especially important in the preparation lab

- the door is locked behind you.

If you have been using an electron microscope, or any other equipment with a vacuum system, you must ensure that all the pump cycles are completed before leaving the Centre. Failure to do this may result in serious damage to equipment.

If you have been using one of the microscopes please ensure you have followed the instructions on the notice "Before You Leave the Microscope Room". This notice can be found by the door, and also gives the phone numbers of the Centre staff to contact in case of problems.

Please report any suspicious behaviour in the basement area at any time to a Centre staff member, or the University Security Centre, phone 5000 .

**8.** **Charging Policy**

At the first meeting, it is expected that an account code is provided for the new project to charge OCEM expenses to. The expiry date of this account code is also required. Authorisation is also required from the lead supervisor or lead Principal Investigator that expenses accrued in the OCEM by the new project can be debited to the account code provided.

The Otago Centre for Electron Microscopy operates a cost recovery budget. Before work can commence in the Centre an account code must be supplied to which the costs incurred can be charged.

Before work can commence agreement must be reached as to whether the project is subject to full cost recovery charges or internal cost recovery charges. If the source of the funding is from a full cost recovery funding organisation, or a source external to the University, full cost recovery charges will normally apply.

For those who undertake their own work in the Centre, an honesty system of cost recovery operates. Each user is required to record their own expenditure on the appropriate cost recording system (either paper based or the computer terminals). Failure to comply with this system will result in access to the Centre being withdrawn.

Project costings can be provided if required. At least two weeks notice must be given if this service is required. Information about the cost of a project as it proceeds can also be provided. Arrangement for this service must be made with the Technical Manger.

The OCEM (or its administrative committees) reserves the right to reconsider the Charging Policy at any time. If alterations are made to it, all users will be informed well in advance.

**9. Priority of Work**

Priorities are set by the Technical Manager in consultation with Centre staff and users. **Teaching commitments (undergraduate and postgraduate) generally take precedence over other work.**

As a regional resource, the Otago Centre for Electron Microscopy is accessible to all members of the University research and teaching community. Researchers from departments that provide support under the club funding model are given priority during times of heavy usage.

**10. Booking System**

Most major items of equipment in the OCEM must be booked for use. Bookings should be made via the web-based system ('Calcium' software) once access to the system is made available to the investigator. Note that the booking system is for equipment only, and new investigators will usually require the supervision of an OCEM staff member when using the equipment. Therefore, unless specifically told otherwise, new investigators should not book equipment without checking with their contact person first.

Bookings can be made for a maximum of two weeks in advance, that is, the current week plus the week following (booking for undergraduate practical classes and maintenance/repair work are the only exceptions).

All book-able equipment and the imaging facilities have a "turn up" time of 15 minutes after the booked time has started. If you are running late you are requested to phone and indicate that you will be late, but that you still want your booked time. A note to this effect will be placed on the appropriate equipment

If you do not arrive in the "turn up" time, and do not ring to indicate you still want your booked time, the booked time may be used by another investigator.

**11. Use of the Centre for Undergraduate Practical Classes and Projects.**

The facilities of the Centre are available for undergraduate practical classes, undergraduate group projects and postgraduate student training. An application must be made to the Centre Technical Manager, and approved, before any practical classes can be run in the Centre. The application must include:

(i) the name of the academic responsible for the practical class.

(ii) the dates and times of the practical class (Note: if the practical class is to run after normal working hours, provision must be made for overtime payment)

(iii) the objectives of the practical class, the general content of the practical class and an outline of how the practical class will run.

(iv) the support required from the Centre. This must include specific technical support, equipment that will be used and locations of the practical class.

(v) what handout material will be required to be prepared by the Centre.

It is important to plan ahead and notify the Centre of your intentions as far in advance as possible. This is to ensure your practical time does not clash with another group and to allow time for any preparation of material. In all normal circumstances the academic-in-charge of a course or paper must be present during the teaching of that course. Any other arrangement must be agreed to by the Centre Technical Manager. Before a practical class can commence an account code must be provided to which all the costs incurred will be charged.

**12. Access to the Imaging Facilities.**

The computers are provided for users of the Centre to work with their captured digital images. The imaging suite is able to be booked using the ‘Calcium’ booking system.

The imaging facilities are also available to staff and postgraduate students of the Department of Anatomy and Structural Biology for non-EM related imaging work. The use of the imaging facilities for EM related work is the first priority.

In the case of equipment malfunction please contact one of the Centre technical staff. Users are not permitted to dismantle equipment themselves. The Centre technical staff will attempt to rectify the fault as soon as possible but they may not always be immediately available.

**13. Staff Desk Areas and Computers**

A staff member's desk area and computer is that staff members personal space. This space is not to be intruded upon without the permission of the staff member concerned. The Centre staff members computer is not to be used without the permission of the staff member.

**14. Centre Library.**

The Centre maintains a comprehensive book library. All are available for use by Centre users. Books must be used within the Center. If users wish to remove a book a book loan form must be filled in and given to one of the Centre staff. A return date will be required. If you wish to keep a book beyond the return date, please ring the Centre and make an arrangement. If the book is not returned within a reasonable period after the return date the borrower will be charged the replacement cost of the book.

**15. Publications Resulting From Work in the Centre and Ownership of Images.**

One of the measures of the Centre's effectiveness is the published and/or presented results obtained from work carried out in the Centre. It is important that the Centre has an up-to-date record of work that was done in the Centre, including all publications resulting from the work, oral presentations such as seminars and conferences.

It is the responsibility of the investigator to inform the Centre Technical Manager of all presentations and publications resulting from work done in the Centre.

If the resources of the Centre contributed in any way to a publication, there should be a general acknowledgement to the Otago Centre for Electron Microscopy.

Electron microscope images are the property of the investigator.

**16. Complaints Policy**

Users, or supervisors of users, who are;

- dissatisfied with support they receive,

- the quality of the work undertaken,

- with a Centre staff members actions, or

- other users actions,

must direct the problem to the Technical Manager.

If on discussion with the Technical Manager a resolution is not forthcoming then the matter will go directly to the Head of Department (HOD), Department of Anatomy and Structural Biology. After consultation with all parties concerned, or their representatives, the Department of Anatomy and Structural Biology HOD has the final say on a resolution.