

An abstract graphic on the left side of the slide, featuring a complex network of interconnected nodes and lines. The nodes are colored in red, white, and blue, and the lines are thin and light blue. The background is a dark blue gradient with a large red curved shape at the bottom left.

# Adelaide Microscopy

Health, Safety and Wellbeing Induction



THE UNIVERSITY  
*of* ADELAIDE

# Introduction

## Welcome to Adelaide Microscopy



### HSW overview

This training module has been developed for clients of Adelaide Microscopy at the University of Adelaide and forms part of the HSW training program at the facility. Completion of this training course is intended to provide clients with a broad general understanding of many of the HSW hazards and safety controls in our laboratory setting.

### Topics covered include

Chemical Safety; Biological Materials; Quarantine Materials; Environmental considerations; Laboratory Waste; Emergency Procedures; Spill Kits; First Aid; Safety Showers; Eyewash Stations; Unattended Experiments; Common Laboratory Equipment; Gas Safety; Cryogenic Materials; Personal Protective Equipment; PC2 requirements and equipment booking access.

Your safety and our duty of care to you are paramount to us at Adelaide Microscopy.

### Employees

Employees, students and associates of the University have an obligation to follow safe working procedures at all times, and to take all reasonable precautions to prevent personal injury or injury to others and damage to plant and equipment. Users are required to follow University of Adelaide rules and regulations for laboratory use.

The University of Adelaide Health, Safety and Wellbeing Induction, and specific courses such as Chemical Management, and Biological Management (including OGTR and DFF (Quarantine)) can be found via <http://www.adelaide.edu.au/hr/hsw/training/>

# About Adelaide Microscopy

Adelaide Microscopy is the University of Adelaide's Centre for Advanced Microscopy and Microanalysis. We have four facilities servicing two campuses.

Reception Hours: 9am - 2pm Monday to Thursday.

Microscopy staff are available during general office hours.

For after-hours access to equipment speak with the relevant Microscopist. Please note that no staff assistance is provided after hours.

Website: [www.adelaide.edu.au/microscopy](http://www.adelaide.edu.au/microscopy)

Email: [microscopy@adelaide.edu.au](mailto:microscopy@adelaide.edu.au)

Telephone: +61 (8) 8313 5855

Adelaide Microscopy's Helen Mayo North Facility is located on the ground and basement levels in the Helen Mayo North Building on Frome Road, Adelaide.

Reception is located on the Ground Floor, Room NG13, Helen Mayo North, Frome Road, Adelaide, South Australia.

Adelaide Health and Medical Science (AHMS) Facility is located on level 6 of the AHMS Building on North Terrace, Adelaide.

The Bio-imaging Facility is located on the ground floor of the MLS Building on the North Terrace Campus, Adelaide.

Our Waite Facility is located in Agriculture Food & Wine (West Wing, Building 19) Hartley Grove Waite Campus, Urrbrae, South Australia.

Telephone: +61 (8) 8313 1069

Location map - <http://www.adelaide.edu.au/campuses/mapscurrent/waite.pdf>

**Adelaide Microscopy is a South Australian National Collaborative Research Infrastructure Strategy (NCRIS) Facility.**

**Visit <https://micro.org.au> for further information.**



# Staff

Angus Netting – Director

Dr Agatha Labrinidis - Senior Microscopist, AHMS Facility

Dr Animesh Basak – Dual Beam Engineer (FIB)

Dr Ashley Slattery – TEM Senior Microscopist

Dr Benjamin Wade – Senior Microscopist

Chris Leigh – Biological Electron Microscopist

Dr Fiona Whelan – Cryo-TEM Microscopist

Dr Gwen Mayo – Supervisor, Waite Facility

Dr Jane Sibbons – Bioscience Imaging Microscopist

Ken Neubauer – Microscopist

Dr Nobuyuki Kawashima - Microanalyst

Dr Paul Olin – Isotope Analyst

Dr Sarah Gilbert – Microanalysis Specialist

Bryant Roberts - Data and Informatics Specialist

Stacey Williams – Administration Manager

Terry Utting – Administrative Officer / Reception

Visit our website for contact information <https://www.adelaide.edu.au/microscopy/contact-us>



# Floor Plans and **Emergency Contacts**

For specific individual facility floor plans, please refer to current floor plan on display inside the relevant facility.

## **Emergency Contacts**

Should you require assistance in a life-threatening emergency, please call ambulance, fire or police on 000 (triple zero)

University Security Emergency only (24 hours) Phone: 8313 5444

### **On Campus Emergency Contacts**

**North Terrace Campus Security Office** Location: Level 4, Kenneth Wills Building  
Phone: 8313 5990

**Roseworthy Campus** Location: Security and Campus Services Building  
Phone: 8313 7999

**Waite Campus** Location: Security Cottage  
Phone: 8313 7200

Health & Safety (including Radiation Safety)  
Phone: 8313 4641

### **University Crisis Line**

For after-hours crisis support service for University of Adelaide students  
Call 1300 167 654 or text +61 488 884 197  
*Weekdays 5pm - 9am, Weekends & public holidays 24 hrs*



For assistance from Adelaide Microscopy staff during business hours please contact Reception located on the ground floor of the Helen Mayo North Building, phone 8313 5855).



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# First Aid Officers

## **Helen Mayo North Facility**

First Aid Officer: Sarah Gilbert (NG18)

First Aid Officer: Chris Leigh (NG20)

## **AHMS Facility**

First Aid Officer: Agatha Labrinidis

## **Bioimaging Facility (MLS)**

First Aid and HSW Officer: Jane Sibbons

## **Waite Facility**

First Aid Officer: Gwen Mayo



**All incidents, injuries or illnesses must be reported to appropriate First Aid or HSW Officer or Adelaide Microscopy Reception located on the ground floor of the Helen Mayo North Building**

# Fire Safety

## **Helen Mayo North Facility:**

In the event of a fire, the alarm will sound. Immediately evacuate the building and assemble on the lawn area in front of the Mawson Building (corner Frome Road and Victoria Drive).

Helen Mayo North Fire Wardens:

Sarah Gilbert (NG18) for basement

Animesh Basak (NG18) for ground floor



## **AHMS Facility:**

In the event of a fire, the alarm will sound. Immediately evacuate the building and assemble outside of the SAHMRI building. Refer to evacuation maps and signage in the facilities for exit points.

## **Bioimaging Facility (MLS):**

In the event of a fire, the alarm will sound. Immediately evacuate the building and assemble outside of the Santos building. Refer to evacuation maps and signage in the facilities for exit points.

**Waite Facility** In the event of a fire, the alarm will sound. Immediately evacuate the building via passageway and assemble on the lawn area on Hartley Grove across from Building 19. Refer to evacuation maps and signage within the facility for exit points.

Waite Facility Fire Warden:

Dr Gwen Mayo (G3B)

**Refer to evacuation maps and signage within the relevant facility for exit points**



# Personal Protective Equipment (PPE)

**Footwear** – enclosed shoes must be worn at all times. **No open toe shoes.**

**Lab coats, safety glasses and gloves** are available throughout the laboratory and must be worn at all times while in the biological sample preparation areas. PC2 users are required to adhere to strict PPE code.

**Face shields and disposable masks** are available on request (see staff for assistance).

**Noise cancelling headphones and/or earplugs** are available on request (see staff for assistance).

**Cryogenic gloves** are available for working hazardous ultra-cold environments (see staff for assistance).



**Contaminated gloves must not be worn outside the laboratory areas**

**Discard all used gloves into appropriate waste containers in the laboratory**



# Chemical Safety

**Chemical Safety Management training must be completed before working with any chemicals at an Adelaide Microscopy facility:**

<https://www.adelaide.edu.au/hr/hsw/hsw-faqs/chemical-safety-management-faqs>

The main environmental impacts/risks associated with the centre are the generation, use, and disposal of hazardous chemicals.

Be aware of handling, spill and disposal procedures for all chemicals you use in the centre. If unsure, ask staff before you use them.

**Refer to the Chemical Safety Management website for more information:**

<https://www.adelaide.edu.au/hr/hsw/hsw-policy-procedures/chemical-safety-management-procedure>



# Gas and Liquid Nitrogen (LN2) Safety



**LIQUID  
NITROGEN**

**Only Adelaide Microscopy staff are permitted to handle liquid nitrogen.**

**In the event of a liquid nitrogen spill evacuate immediately to a well-ventilated area and call for [emergency](#) assistance.**

## **George Rogers and Isotope laboratories within the basement of Helen Mayo North**

Low Oxygen, Hydrogen and SF6 gas alarms are installed in room NB16, NB25, NB26, NB19, NB21, NB44 and NB45 which houses potential oxygen displacing gases. The strobe lights are mounted in the corridors of the basement. There is an additional oxygen depletion sensor and red strobe light within the Cryogenic room (NG21A), if this strobe light and alarm is sounding, do not enter the room.

In the event of an emergency the red strobe lights will flash and an audible alarm will sound, the gas supply to the facility will shut off.

If the alarm is sounding follow evacuation procedure and call emergency. Do not re-enter the lab until you have been notified by security or staff that it is safe to enter.

There is another gas alarm system on the wall near the coating room (NB13), and in the Isotope Laboratory foyer (NB44) these alarms are non-urgent.

**Please report any emergency (red) alarms to staff**



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# Gas and Liquid Nitrogen Safety

## Bioimaging facility (MLS)

Most microscopes within the Bioimaging facility are connected to the oxygen displacing gas, Nitrogen and Carbon Dioxide gas. There are O<sub>2</sub> depletion and high CO<sub>2</sub> alarm sensors and red strobe lights located inside and outside of rooms G05, G06, G07, G08, G09a and G09b. In the event of an emergency the red strobe lights will flash and an audible alarm will sound, the gas supply to the facility will shut off.

In the case of the alarm sounding follow evacuation procedures and call emergency. Do not re-enter the lab until you have been notified by security or staff that it is safe to enter.

There is another gas alarm system on the wall in the foyer, these alarms are non-urgent.

**Please report any emergency (red) alarms to staff**

## AHMS facility

Multiple instruments with the AHMS facility are connected to Oxygen and/or Carbon Dioxide gases. There are high CO<sub>2</sub>, high and low O<sub>2</sub> sensors and red strobe lights located inside and outside of rooms 6093, 6094, 6095 6101 and 6102. In the event of an emergency the red strobe lights will flash and an audible alarm will sound, the gas supply to the facility will shut off.

In the case of the alarm sounding follow evacuation procedures and call emergency. Do not re-enter the lab until you have been notified by security or staff that it is safe to enter.



# Fume hoods

**All work containing resins and biological EM processing chemicals **MUST** be carried out in the designated fume hood (consultation with staff is mandatory before working with chemicals)**

Small volumes of ethanol may be used outside the fume hood ensuring adequate ventilation.

All other chemicals with 'avoid vapour' risk/health statements are to be used in the fume hood.

All waste produced in the fume hood must go into the relevant labelled waste containers in the fume hood.

In the event of fire or electrical fault the fume hoods will shut down automatically.

**In the event of a local fire outside the fume hood, turn off electrical equipment by pushing the red button.**





# PC2/BC1 Laboratories

## PC2 Facility Managers

**Dr Jane Sibbons (Bioimaging (MLS) and Helen Mayo North) and Dr Gwen Mayo (Waite)**



The following personal protective equipment must be worn when undertaking dealings in the facility:

- Protective clothing to afford protection to the arms and front part of the body. Rear-fastening gowns are provided.
- Disposable gloves must be worn when dealing with GM viral vectors or GMOs which fit into the classification of Risk Group 2 organisms, as described in AS/NZS 2243

All contaminated waste must be disposed of in the sharps or yellow hazardous bins provided. A separate training form must be completed and kept on file at Adelaide Microscopy by all users entering the PC2 Lab.

All users handling animals must have completed the animal handling safety training prior to accessing our facility.

### **List of instruments within PC2 facilities:**

Helen Mayo North Ground Floor - instruments in NG38a and NG38b, including the IVIS are housed within a PC2 facility.

Bioimaging (MLS) Facility - all instruments, excluding the analysis computers are housed within a certified PC2 laboratory.

AHMS Facility - all instruments excluding analysis computers are housed within a certified PC2 laboratory.

Waite Facility - instruments in G5, including the stereomicroscope and Nikon A1R confocal are within PC2. G5 is also a certified BC1 facility.

Contact Gwen Mayo for more details.

# General Safety Measures



**Spill Kits and safety showers** are located on all levels. Keep access to these areas clear at all times. To activate the shower pull on the chain. Safety shower use will cause flooding, this is OK – no power sources are located at a low level in the area.

**Eye wash kits** are located in the First Aid Kit and in those laboratories where it is mandatory to have access to them.

**Fire extinguishers** are located in all corridors and some rooms. In Helen Mayo North fire extinguishers can be found in the hallways outside Rooms NB22 and NB30. In Bioimaging, the fire extinguisher can be found in the corridor of G04 and G05. At Waite, fire extinguishers are located in corridors outside G5, G10 and G14, plus a fire blanket located in G11 adjacent the critical point dryer. Fire extinguishers are located on level 6, beside the fridge in the kitchen area directly outside the Northern entrance of the facility.

Users are to **report any spills or accidents to staff immediately**. Please report low stock of gloves and other items or over flowing bins to Adelaide Microscopy staff.

**Gas alarms** are fitted to certain rooms containing gases that may pose a risk if leaking occurs (refer to Gas and LN2 safety for specific details).

**NO food or drink is permitted** in any area of the prep laboratories or instrument rooms. Visitors at Helen Mayo North can access the shared kitchen facilities located on the ground floor. Bioimaging visitor can use the Breakout space on Level 1 of MLS. Waite visitors can use the kitchenette G1 and meeting room G3. Visitors at AHMS can use the kitchen area and seating outside the Northern entrance of the facility (office area).

Make sure to **take your samples with you when you leave**. We do not take responsibility for lost samples. Keep your workspace tidy and remove any rubbish on leaving.

**SOPs (Safe Operating Procedures)** are available for all instruments. As part of your induction you must read the relevant safe operating procedure before you access the equipment.

# Waste Disposal

**General Waste** –to be used for standard office waste (no hazardous waste).

**Paper Recycling** – Uncontaminated non-glossy paper can be placed in the large blue recycle bin on the ground floor.

**Sharps** – all blades, needles and knives must be disposed in the yellow sharps bins located in various rooms. No sharps are permitted on or in the sink.

**Broken Glass** – can be placed in the waste bin labelled “glass waste only” in the basement rear corridor (Helen Mayo North). At AHMS, glass can be placed in the green waste bin with yellow lid labelled “Clean glass waste only” located in the lab space directly outside the Southern entrance of Adelaide Microscopy. At Waite the broken glass bin is located under the sink in G10.

**Used Glassware** - for glassware used in the fume hood (i.e. had contained water-miscible toxic chemicals) rinse first in the fume hood sink and then place next to the sink outside of the fume hood.

Used glass pipettes and contaminated disposable plastic ware must be disposed in the yellow biohazard bins.

**Biohazard Bins** - Biological waste must be disposed of in the yellow biohazard bins.

**Hazardous waste** - should be placed in designated waste containers in fume hood.

**Resin Waste** - Use only disposable plastic ware for resins (e.g. plastic vials) – plastic ware contaminated with resin must be discarded in the resin waste bin.



If you are unsure what waste bin to use, please see Adelaide Microscopy staff or refer to the Chemwatch website:

<https://jr.chemwatch.net/chemwatch.web/home>

# Instrument Booking Rules

All new users are required to complete the online registration form before being inducted and booked on instruments at all Adelaide Microscopy facilities.

Instrument bookings rights will not be issued until:

- Your Training Record has been completed as instructed by your trainer.
- You have demonstrated competency in the use of the equipment independently.
- Access will then be given during 8am to 5pm weekdays.
- After-hours access may be arranged later, following approval from your trainer.



To maximise the use of instruments and equipment at Adelaide Microscopy, and to provide a fair allocation of time to all users of the facility, the following conditions should be observed when booking instruments:

- Minimum booking time on ALL instruments is 15 minutes.
- Maximum booking time on ALL instruments is 5 hours in one core period (9am - 5pm) of any one day.
- Longer bookings can be made out of core periods or by consultation with staff.
- Bookings can only be made by users who have been given booking rights.
- The user who booked the session must be the person attending the session and is responsible for the instrument and any charges incurred. Users or supervisors with booking rights are not permitted to book for other users.
- If you need to cancel a booking, please call (08) 8313 5855 or email or notify a staff member, this helps to free up session times for other users.

**Late cancellations made within 24 hours of the booking may be charged 100% of the booking fee**



# Visitors

Visitors are welcome at Adelaide Microscopy but a quick induction is required for anyone working or visiting the laboratory for a prolonged time. Please sign the visitor's book located at Reception when visiting the Helen Mayo North Facility.

# Publications

Microscopy Australia receives funding from the federal and state governments, which is then distributed to local microscopy facilities to fund instruments and staff. This funding depends on us demonstrating how important microscopy is to researchers. Acknowledgement in publications is one of the main ways we demonstrate this.



**By acknowledging Adelaide Microscopy at The University of Adelaide, and Microscopy Australia, you help us to secure future funding for microscopes and specialists.**

We also ask you to send a copy of the publication for our records. We report these back to the federal government annually to help maintain future funding and communicate the growth areas and demands of researchers accessing our services. It also demonstrates the impact that the government funded infrastructure has on enhancing research outcomes. With your help we can ensure a stable future for research.

Acknowledgement example:

*“We acknowledge Microscopy Australia (ROR: 042mm0k03) at Adelaide Microscopy, The University of Adelaide, enabled by NCRIS.”*

Please email details of any publications or special achievements to [microscopy@adelaide.edu.au](mailto:microscopy@adelaide.edu.au)

make  
history.

