

Molecular Analysis Facility User Policies

University of Washington

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This document is a reference manual covering the basic operational policies for use of the Molecular Analysis Facility (MAF) at the University of Washington. The MAF houses state-of-the-art instrumentation and serves multiple clients, providing qualified users with 24/7 access.

All MAF users must understand and adhere to the following policies before using laboratory equipment.

It is impossible, however, to define a policy for every conceivable situation. Rules and policies are no substitute for common sense. Anyone who fails to act in a professional, safe, and responsible manner while in the MAF will be banned from further use of the facility.

Users' suggestions and feedback on MAF operation and equipment are welcome at all times. Please feel free to direct your suggestions to the laboratory director.

1. General Procedures

1.1 Categories of Users

- **Professional Staff** - Full or part time MAF employees.
- **UW Academic Users** - University of Washington faculty, staff, postdoctoral fellows, and graduate and advanced undergraduate students working in the laboratory or sending samples to for staff analysis on an hourly basis
- **Other Academic Users** - Faculty, staff, postdoctoral fellows, and graduate and advanced undergraduate students from other universities or colleges or state and federal laboratories working in the laboratory or sending samples to for staff analysis on an hourly basis
- **Industrial Users** - Engineers and/or scientists from non-academic facilities working in the laboratory or sending samples to for staff analysis on an hourly basis

All of the above users fall into one of three access categories:

- **Regular-hours Users** - Users working during regular business hours Monday to Friday when MAF staff is available for assistance
- **Off-hours Users** - Users qualified to work in the MAF at times other than regular business hours Monday to Friday (additional training and evaluation are required for users to earn off-hours status)
- **Remote Users** - Users who send or bring samples to the MAF and have staff acquire data on their samples.

1.2 Access

The MAF is available to all users of good standing who have filled out a registration form and been approved via the CORAL online system. Based on successful completion of training in the use of MAF equipment, MAF staff will request access for the user's Husky card (or "white card" to be issued to an external user) to allow entry to the MAF areas on the ground floor of the MoIES/NanoES building. The activated card provides the individual authorization to enter the facility. Sharing of cards or allowing unauthorized access to the facility is not allowed. Loaning of cards to others is a serious violation. **Non-authorized persons are prohibited from accompanying, observing, or helping users at work, unless specifically approved by the laboratory manager.**

MAF access is revoked for users who are inactive for one year and the user will have to re-register. Tool qualification will expire if there is an extended lapse in activity. Users will be notified via email in advance of any pending disqualification.

1.3 Hours of Operation

Normal business hours are 8 a.m. to 6 p.m., Monday through Friday. All regular-hours users must schedule their work during these business hours and reserve the needed equipment online. **Undergraduate users must perform their work during business hours.** The laboratory is open to qualified off-hours users 24 hours a day, seven days a week. Users must undergo off-hours training with the MAF staff person responsible for the desired instruments to qualify for 24/7 access. More information on rates and hours is provided in section 2.3.

1.4 Facility Governance and Appeals

The laboratory director is responsible for the continued operation of the facility. Use of the facility is at the sole discretion of the management. The laboratory director and staff are responsible for maintaining and enhancing the equipment and other resources of the facility, and for ensuring that operational policies are followed. Authority and responsibility for safe operation of the laboratory flows from the director to the staff. On matters involving equipment usage or safety, all users must follow direct instructions from the staff.

Both staff and users are expected to act in a courteous and professional manner at all times. Deviations from this norm by either users or staff should be immediately reported to the laboratory director. If at any time a user feels unfairly treated by a staff member or other facility user, or strongly disagrees with the rules imposed by a staff member, they should discuss the situation with the laboratory director. The sequence of appeals is from the laboratory director to the MoES administrator and/or director.

1.5 Responsibility for Equipment Damage

Much of the equipment is delicate and expensive to repair. Staff have developed protocols for the safe operation of the tools to prevent damage. **If a user deviates from the protocols and training provided and damages the instrument, their PI or organization may be held liable for the cost of repairs.** Please remember that the first priority is always to operate the equipment safely according to existing protocols. Getting data is secondary to proper use of the instruments.

A simple mistake made out of inattention or ignorance can result in tens of thousands of dollars in damages. If there are lingering questions about any aspect of the protocols, it is the user's responsibility to get assistance. Never guess at the correct way to proceed. Access to the MAF facility is a privilege that can be revoked as deemed necessary by the MAF Director.

2. Equipment Use and Availability

2.1 Registration

Potential new users should consider first contacting staff in charge of instruments of interest or contact the main MAF email address (uwmaf@uw.edu) to get information about what type of registration process may be best for the users' situation. This will help ensure users do not have delays in registration. The MAF director and/or staff will assess the proposed research project(s) for suitability of tools as well as for project feasibility and safety, and will arrange for any required training. Upon completion of these steps, the user can register via CORAL and the MAF staff can authorize users of the MAF for access to the facility and/or online instrument reservation.

Much of the equipment in the facility is delicate and direct hands-on access is restricted. While hands-on access is an important part of the educational process, rules and procedures for the use of instruments are in place to assure their continued smooth operation. Violation of these procedures or carelessness in operation can result in damage to the

equipment, downtime, and considerable expense. **Carelessness or damages caused by improper operation while using any of equipment may result in suspension of user privileges for either a specific instrument or the facility as a whole.** Users must be specifically trained and authorized to use the hoods by MAF staff, and are required to attend sessions on chemical safety and chemical use prior to using any chemicals in the facility. Use of any hazardous chemicals in the MAF must be approved in advance by the staff and/or director. Only fixed tissues and cells can be brought into the facility with prior approval and only for specific instruments. Please contact staff and/or the MAF director for more details. Currently no biohazardous agents can be analyzed in the MAF facility.

2.2 Equipment Scheduling

Users who have been approved to use a specific instrument can reserve available time on instruments through the MAF website by choosing the “CORAL LOGIN” link at: <https://www.moles.washington.edu/facilities/molecular-analysis-facility/> or contacting MAF staff for instruments having no online scheduling. Users must sign up for such use in advance. Failure to cancel an unneeded reservation results in inefficient utilization of resources and the full reservation may be charged to the user (instrument dependent). If you need staff assistance contact the staff member in charge of the tool.

2.3 Equipment Charges

Users are charged for use of most of the MAF tools. Equipment charges help pay for expendables and maintenance costs and are calculated on an hourly basis. Industrial and academic users are charged at different rates. External academic user fees are larger than the internal UW rate by the amount of UW overhead expenses. Industrial rates are chosen to be comparable to those charged by commercial suppliers of equivalent services where applicable. Users will be billed at the end of each month for accumulated user charges. For UW users, this will be done via budget number. External users should supply a purchase order number against which charges can be billed. Failure to pay usage charges will result in cancellation of MAF use privileges. Users may discuss charges with the MAF Director, if they have any questions.

For UW users only: whenever your budget number changes, please update the budget numbers in your Coral account so that MAF staff can maintain current, accurate account numbers at all times and avoid unnecessary book-keeping costs.

2.4 Problems

Problems with equipment, malfunctions, breakdowns, *etc.*, should be immediately reported to the laboratory staff. Users should not try to fix or adjust anything. MAF equipment is expensive and much of it is very delicate. Considerable damage can be done at a great cost of both money and downtime by well-meaning attempts to fix malfunctions. There is no reason for any user to use a tool on anything, with the exception of a small screwdriver or Allen wrench for sample mounting. **If users damage equipment by not consulting staff members or by disregarding the suggestions provided by the staff members, these users will be held responsible and may be charged for any needed repairs, in addition to facing possible suspension of access.** When problems occur, users should contact the staff member in charge of the equipment. After hours users should coordinate with the main staff member in charge of a tool for appropriate way to deal with tool problems during non-business hours.

Any emergency involving injuries, fire, chemical spills, *etc.*, should be reported to UW Environmental Health and Safety (EH&S). The phone number for EH&S is posted in each telephone station in the laboratory.

3. Laboratory Practice

3.1 Visitors

Users are not allowed to bring visitors in the facility for any reason without prior approval from staff and/or MAF director. A “visitor” is defined as anyone without approved MAF access for that specific lab/space in the MAF. Tours must be scheduled in advance for any visitor.

3.2. Storage

No storage space is provided in the MAF.

3.3. Phones

Phones are provided throughout the laboratory for staff and users. To place an off-campus call, first dial nine (9). Long distance calls may not be made without an access code. Facility phones are not a substitute for office phones for UW users. Users should not routinely make or receive calls in the laboratory. The facility will not routinely take messages for users. Phones are connected in multiple places. Please DO NOT answer the phones unless you are waiting for someone to call you back.

3.4. Computers

Computers are available to staff and users for data analysis. Users will get passwords from the staff for access to some of the computers. Users are required to move their data files from computer hard drives to Coral online storage. No USBs are allowed on MAF computers. Data storage in MAF computers is temporary and will be deleted at regular intervals.

Installation of any application software or resetting of default parameters is not allowed or must be approved in advance by the MAF director.

3.5 Hazards

All laboratory users are required to follow good lab safety practices including but not limited to proper attire, use of personal protective equipment, and good chemical hygiene. In addition, any users not following the MAF lab safety practices in their entirety will be denied further access to the facility. Users are discouraged from handling any materials or equipment for which they have not been specifically trained by a MAF staff person.

4. Hoods

The MAF provides a fume hood for chemistry associated with MAF equipment. Access to the hoods is restricted to users that have completed the necessary training courses, have been approved to use the hoods by MAF staff, and are working on specifically approved projects.

4.1 Access

The MAF fume hood workspace in the G42/43 prep area are shared and are not formally reserved. Please be considerate of other researcher's need for working space in the hoods. If you experience a conflict and are unable to resolve the issue, please contact an MAF staff for arbitration.

4.2 Provided Materials

The MAF stocks a limited number of materials and supplies for use in the hood. Additional materials are available for purchase at cost. Throughout the facility only MAF staff is allowed to change compressed gas cylinders. Please let MAF

staff know if a cylinder is empty. Also, do not adjust gas regulators unless specifically trained to do so as part of your instrument training.

4.3 Hazards

Many additional chemical hazards are present in the fume hood corridor. Lab coats, goggles, and other PPE is available to users in this area. A number of the chemicals in the lab can be hazardous if they are not handled properly and stored correctly. Please limit your work to MAF approved chemistry in the MAF hood only. All chemicals have been carefully sorted and arranged based on reactivity for safe storage. Please replace all chemicals in their proper locations when you have finished with them. Utilize the chemical fume hood when working with solvents and use labeled glassware for small aliquots. If you cannot find dedicated glassware for the reagent you are dispensing, be sure to label your reagents with name, date dispensed, and your initials. Dedicated waste containers have been pre-labeled for most reagents in the lab. Always notify staff in the event of a chemical spill. No outside chemicals can be brought into the MAF without prior staff approval. No storage for outside chemicals will be available.

4.4 Waste Disposal

Always use the correct vessels to dispose of chemical waste. If you have any questions about chemical handling or waste disposal, please contact a MAF staff person; do not proceed if you have doubts about the correct handling of chemicals. Waste containers for each solvent are located under the fume hood. Acetone and IPA are not to be rinsed down the sink; please capture in a beaker and transfer to the “All Solvents” bottle under the hood.

5. Acknowledgments

MAF users agree to acknowledge usage of the facility in their scientific publications and to provide bibliographic references for archival papers and conference proceedings enabled by MAF, as they appear, and upon request. A suggested acknowledgment is:

“Part of this work was conducted at the Molecular Analysis Facility, a National Nanotechnology Coordinated Infrastructure (NNCI) site at the University of Washington with partial support from the National Science Foundation via awards NNCI-2025489 and NNCI-1542101.”

Occasionally MAF staff may request input in highlighting research done at MAF for reporting to the NSF National Nanotechnology Coordinated Infrastructure network. Users’ cooperation in response to these requests is greatly appreciated.