

## CINS Facility Rules and Guidelines for Use

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The Center for Integrative Nanotechnology Sciences (CINS) at the University of Arkansas at Little Rock (UA Little Rock) houses a significant network of instrumentation open to researchers from universities, government laboratories, and industry. All CINS users, whether employees of the university or not, must follow the rules and guidelines in this document. Please read the document carefully, as it is considered binding.

This is a continuously evolving document and may be updated without notice. Users are responsible for keeping abreast of the updates. The fees required for training and/or certification are listed on the CINS website.

### Additional Reading

In addition to this document, all users must read the UA Little Rock Biological Safety manual, Radiation Safety manual, Chemical Hygiene Plan, and Safe Operating Procedures before working at CINS.

### Application Process

To utilize CINS instrumentation, prospective teams of researchers (principal investigators (PIs) individual members of the project) must submit proposals detailing the desired research project(s). PIs must complete the **Project Proposal forms**, explaining the requested instrument usage and how it relates to the project(s) as a whole. In addition, each user must complete and submit a **User Information form**, and undergraduates must complete the **Undergraduate Research Proposal form**. Users from outside of UA Little Rock must also complete the **External User section** (p. 3) of the User Information form. All forms are available at [ualr.edu/nanotechnology/policies-and-procedures/](http://ualr.edu/nanotechnology/policies-and-procedures/). All forms must be approved by the CINS Director and the Director of Instrumentation before a project begins. All appropriate signatures must be obtained prior to submitting the form for approval.

### Training and Certification

All CINS users must be trained by qualified CINS staff members and certified by the Director of Instrumentation before they will be allowed to use any instruments on their own. No one is permitted to train any user without the consent of the CINS Director of Instrumentation.

Before being trained on any instrument, users must read this document and the safety manuals listed above. Additionally, the above-mentioned Project Proposal and User Information Forms must be submitted and approved. Users must also familiarize themselves with the safety procedures for each instrument they intend to use. Instrument-specific procedures will be disseminated during the training; in addition, university and/or CINS general laboratory safety training may be required for certification. Certification will be issued following the successful completion of specific training courses for each instrument.

All users of CINS instrumentation are expected to possess adequate knowledge of research ethics; this can be obtained by successfully completing the [Collaborative Institutional Training Initiative](#) (CITI) Responsible Conduct of Research (RCR) Training or other research ethics training courses. Passing such a course is required for all researchers at UA Little Rock, regardless of discipline.

Certification may be revoked by the Director of Instrumentation at any time if the user is found to be incompetent to operate the instrument and/or the user does not abide by the CINS Rules and Guidelines (this document) and/or UA Little Rock safety manuals. Individual instruments may also have specific rules and guidelines not listed in this document, and failure to follow these rules and guidelines may also be grounds for revocation of certification.

### **Instrument Scheduling and Usage**

The instrument usage schedule is managed by a [web-based scheduler](#). If a user needs to use an instrument and/or instrument PCs, he/she must sign up via the web scheduler. In this request, the user will include the time needed to analyze the data and/or install/remove peripheral equipment (such as optional sample stages); the time required to ready the equipment (e.g., the duration of time to reach operational vacuum); and the time required to copy or back up data. A user may not utilize any part of the instrument without having registered such use on the web scheduler.

Scheduled reservations are approved on a first-come, first-served basis. However, appointments may be cancelled or modified at any time by CINS staff for maintenance or urgent usage services. The maximum reservation length and total time allowed on each instrument will be determined by the Director of Instrumentation. The Director of Instrumentation reserves the right to restrict any user's access time. The CINS staff member in charge of a particular instrument also has the right to cancel any user's time if appropriate, especially for routine or emergency maintenance.

If a user needs to cancel or modify the scheduled time and cannot do so via our web scheduler, he/she must inform the Director of Instrumentation by email within 24 hours of the end of the session in question. A session on an instrument may not be cancelled within 4 hours of its scheduled starting time. In general, a user may cancel his/her session after 1/2 hour of its starting time (i.e., the minimum time of a session is 1/2 hour). Please note that, however, that some instruments may have a different minimum time of usage. Failure to keep the proper instrument usage time and/or not signing the proper log sheets will result in loss of all instrument usage privileges for an indefinite period of time.

If, for any reason, a user needs assistance in analyzing his/her samples on an instrument, permission may be granted by the Director of Instrumentation for such assistance. Such assistance must, however, be requested prior to the Director of Instrumentation's approval of the instrument usage session indicated on the web schedule. User(s) must present all necessary information concerning the measurements and specimen safety (MSDS) before being considered for such services.

Users are responsible for keeping the instruments safe and functional by reporting any malfunctions. The user must promptly notify CINS staff of any irregularities with the instrument, verbally (phone call) if possible, and a written (email) report must be submitted to the Director of Instrumentation and the staff responsible for the instrument. The log sheets provided also have columns for such comments. Failure to comply with any of the three notification procedures (verbal notification, email notification, and comments on the log sheet) will result in suspension of the user's certification. The passwords and the key code (as well as one's identification card) issued for CINS instrument usage must not be shared with anyone including the PI(s) or CINS staff.

### **Specimen Guidelines**

A user may not analyze any specimen not specified on the Project Proposal form; specimens may only be analyzed in the manner stated in the approved Project Proposal form. Users must provide MSDS for all materials and specimens to be analyzed, in accordance with UA Little Rock safety manuals. These guidelines are to ensure the safety and integrity of the instrumentation by keeping track of what is introduced to the instruments and laboratories. Failure to provide MSDS may result in the suspension/cancellation of the proposal/project; this means that no sample may be analyzed without prior approval of CINS staff, regardless of its origin. Anyone asked to analyze unauthorized specimens should consult the Director of Instrumentation. For information regarding MSDS of specially synthesized specimens, please contact Facilities Management at 501.916.3390.

All precautions for sample preparation must follow UA Little Rock safety manuals. In general, most sample preparation must be carried out under a chemical hood. Compliance with the specific requirements of each instrument—such as the banning of liquids and strongly magnetic materials in rooms housing electron microscopes—is required.

### **Safety Guidelines**

#### **Emergency Procedures**

In case of an accident, the safety of the person(s) affected should always be the first priority in any emergency situation, followed by concern for the instruments and the facility. Appropriate authorities are to be notified immediately, in addition to the CINS staff and the user's supervisor. If anyone is injured, appropriate emergency medical procedures must be carried out (if needed, dial 911 for the fire department and emergency medical services), followed by notification of UA Little Rock Public Safety (501.916.3400).

Emergency contact phone numbers and Standard Operating Procedures (SOPs) are provided for each instrument, in the vicinity of the instrument. The SOPs typically include the Emergency Procedures (EPs). If necessary, the user should carry out emergency shut-down procedures for the particular instrument(s) by following the provided EPs. Written reports of the accident must be filed with the CINS Operations Director within 30 days of the incident.

Users' knowledge of emergency procedures and safety manuals will be tested yearly. Users must confirm his/her understanding of EPs prior to using each instrument. Some instruments are so complicated that a user faced with an emergency should contact the manufacturer (e.g., electron microscopes).

As stated above, all users must confirm their awareness of any possible danger associated with the proposed instrument usages in writing. The statement of confirmation must be approved by the CINS Director of Instrumentation prior to the first use (as stated on the CINS Project Proposal form). If new issues related to safety or the integrity of the instruments arise after the project starts, the user and the PI(s) must immediately notify CINS staff verbally and in a written document bearing the PI's signature. In this situation, the project may be suspended until the instrument is determined to be safe by CINS staff, at which point the project proposal must be resubmitted and include additional, appropriate safety procedures.

### **Dress Code**

Users' attire (clothing, shoes, cosmetics, personal accessories, etc.) and personal hygiene (hair, nails, etc.) must be maintained so that it will not affect the safe and clean operation of instruments. For example, loose clothing may become caught in moving parts and their fibers may contaminate specimens. Jewelry may be dangerous in the operation of CINS instruments, and appropriate caution must be exercised. Open-toed footwear is not allowed in CINS instrumentation rooms. In addition, high-heeled footwear may not be appropriate while operating some equipment.

Each instrument has cleanliness procedures to prevent contamination, and all users must follow appropriate procedures and be aware of the possibility of cross-contamination caused by touching dirty surfaces followed by touching a clean specimen. The cleanliness procedures differ depending on the instrument, and all users must be aware of the particular requirements for each instrument.

### **Instrument Modification**

Users may never install or change settings (such as passwords, directory, account information, internet settings, etc.) or install any software (even plug-ins) on any of the PC/work stations/microprocessors belonging to CINS. Users also should be aware that everyone must abide by the rules of UA Little Rock Computing Services when accessing any IT devices on campus. Users should never change the configurations of the PC/work stations/microprocessors belonging to CINS. Illegal software should never be installed on any of the PC/work stations/microprocessors at the CINS. Upgrading any software including the operating systems often affects the performance of the instruments and/or related software and should never be performed by a user. If a user needs any configuration change, software installation, or software upgrades, s/he should contact the CINS Director of Instrumentation by email. On some PCs, no internet activity is permitted except for connection to the data server for data backup/transfer. Anyone who is found to have violated these rules will be suspended. In addition, USB devices and CD/DVD media are not to be connected to the instrument PCs at CINS. All

data back-up is to be carried out via a dedicated data server. Web browsing may not be allowed on some of the instrument PCs.

If a particular modification to an instrument is desired, the PI(s) must submit a written request to the CINS Director of Instrumentation and Director along with a Project Proposal Form detailing the benefits of such modification. The Director of Instrumentation will consider such proposals and discuss them with the CINS staff, other affected users, and others as necessary before rendering a written decision. The cost of such modification (including any extra service contract/maintenance fees) may need to be paid by the group(s) suggesting it. The addition of such extra equipment does not grant the user free instrument usage time. All instrument usage time, including the time needed to ready the instruments with peripheral equipment, must be paid by the user(s). The addition to the instrument, although paid for by non-CINS user(s), shall belong to the CINS and will be controlled as a CINS instrument. There must be a written agreement between the group(s) purchasing the addition and CINS **prior to** the introduction of such an addition to any CINS instrument.

## **Results and Recognition**

CINS must be recognized in all publications and presentations that contain research results obtained with the use of CINS facilities. Additionally, if CINS staff members make significant intellectual contributions by providing technical assistance or consultation for the work resulting in publications, they must be appropriately recognized as co-authors.

Any data or intellectual property resulting from CINS equipment usage will be the sole property of the users who have signed the CINS Project Proposal and User Information forms and who have paid appropriate fees for the services. CITI RCR is a good source of reference for resolving issues related to scholarly research ethics. The intellectual rights of users working within the University of Arkansas system are governed by the state university rules/laws.

## **Reporting**

All CINS users and PIs are expected to file annual reports with the Center by February 1<sup>st</sup>, which include a list of all publications and presentations based on work performed at CINS. Patent applications should also be reported.

## **Usage Fees**

Please consult the [CINS Facility Use Fees](#) table for current rates. All users will be charged appropriate user fees for the time reserved on the web scheduler. In addition to the web scheduler, every user must sign the log sheet provided for each instrument. Surveillance videos may also be used to support the usage times.

The facility usage time will include the time it takes to ready the instruments before and after use, not merely the time of observations/analysis (e.g., pump-down times or degassing times for instruments with vacuum systems). In addition to the hourly instrument fees, users must pay for sample preparation (including ion beam coater, ion

beam polisher, ultramicrotome, etc.) and perishables (e.g., chemicals, gas, gloves, tweezers, TEM grids, pastes, glues, glass slides, etc.). Users and PIs will also be responsible for the costs of repairing any instrument damaged while they are operating it, as acknowledged by the PI listed on the User Information form.

### **Demonstrations and Undergraduate and High School Projects**

Class demonstrations and undergraduate and high school science projects can be performed free of charge for a maximum of five hours of CINS staff time. Class demonstrations must be requested at least a week in advance by emailing [nanotechnologycenter@ualr.edu](mailto:nanotechnologycenter@ualr.edu).

All faculty members responsible for undergraduate or high school projects must complete the Undergraduate Project Proposal forms. The copyright for data and images obtained free of charge belongs to CINS, and any usage in publications or presentations, including science competitions, will require written permission from the CINS Director of Instrumentation in advance. In addition, proper acknowledgements must appear in any publications and/or presentations. If a minor is involved in the project, his/her parent or guardian's approval will also be required. Please contact Dr. Fumiya Watanabe at 501.916.6506 concerning proper documentation for undergraduate and high school student projects.

### **Insurance**

Accident insurance covering instrument usage, as well as bodily injuries and damage to the instruments at CINS, must be carried by the user's home institution before she/he will be allowed to use any instrument at CINS. The amount of insurance coverage needed by other institutions is listed on the User Information form. CINS is not responsible for any accident related to the use of CINS instrumentation by anyone who is not a UA Little Rock employee, as stated on the User Information form. Potential users should consult their home institutions concerning insurance coverage.

### **Failure to Comply**

Failure to comply with any of the rules listed here and those mandated by the staff member in charge of a particular instrument will result in the suspension of the user's certification for use of any and all CINS instruments. It is the responsibility of a user to be aware of the rules regarding the use of an instrument. Users should seek the advice of CINS staff members if they are uncertain of the rules pertaining to particular instruments and not included in this document. Not following ethical research standards, such as those outlined in the CITI RCR, is also a reason for suspension.

In general, the first offense will result in a 1-month suspension. The second offense will result in a 3-month suspension. The third offense will result in permanent suspension. After each suspension period, the user must be recertified by the staff for each instrument before being allowed to use the instrument again. Re-training fees must be paid by the PI(s). This rate will vary with the degree of retraining necessary for each suspended user.

In addition, the Director and the Director of Instrumentation reserve the right to suspend any user whom they find unfit to operate the instruments for indefinite time periods at any time without any offense.