

User Agreement for Kuiper-Arizona Laboratory for Astromaterials Analysis (K-ALFAA)

The Kuiper-Arizona Laboratory for Astromaterials Analysis

The Kuiper-Arizona Laboratory for Astromaterials Analysis (K-ALFAA) at the University of Arizona is located in the basement of the Kuiper Space Sciences Building (1629 University Blvd, Tucson, AZ 85721). K-ALFAA houses electron- and ion-beam microscopes designed to analyze heterogeneous solid materials at spatial scales ranging from micrometers to atomic. The Facility is open to internal and external academic, non-profit, or industry users. This document serves as an agreement between the user and K-ALFAA.

Initiation of New Projects

All new projects need to be discussed with a member of the K-ALFAA technical staff, regardless of the level of prior user experience. The technical staff are responsible for the health of instrumentation, and it is their job to train users (or verify user experience), provide advice on appropriate sample preparation, analytical methodology, as well as setup users with accounts to reserve instrument time. The staff can be contacted individually by email. See <https://kalfaa.lpl.arizona.edu/people> for contact information.

Reservation of Instrument Time

Instrument time is reserved through an online calendar system, which is currently iLab. All users are required to register for an iLab account (directions on how to register will be provided). When training or assisted use is needed, users are required to contact a K-ALFAA laboratory manager to coordinate schedules with them. This requirement is not intended to be overly burdensome, but rather to be considerate of other users' demands on the time of the instrument scientists.

Availability

The K-ALFAA is open to all users during normal business hours from 9:00 am to 5:00 pm, which includes some time for lunch and an occasional break for the users and laboratory manager. Only those users who have been trained, verified, and/or approved by lab managers for after-hours access, will be allowed to use instrumentation outside of normal business hours. If approved, CatCard access to the building and keycodes to the lab will be provide. Out-of-hours users should not attempt to troubleshoot problems without contacting a member of the technical staff.

Laboratory Safety

Safety is the responsibility of everyone who works in K-ALFAA. Thus, research performed at K-ALFAA must be planned in coordination with K-ALFAA staff and reviewed for environmental, safety, and health (ESH) aspects.

- All users are required to review safety procedures with one of the facility managers
- K-ALFAA is a non-radiological facility and therefore radioactive materials are not permitted without special approval
- Users are not allowed to leave samples in the Facility. All samples must be removed by the user at the end of their microscope session unless otherwise permitted by the laboratory staff
- All users working in K-ALFAA labs are required to be familiar with the K-ALFAA hours of operation
- If approved for after-hours use, the laboratory staff and business office of the Lunar and Planetary Laboratory will coordinate building and lab access
- Shipping ANY sample(s) or materials from K-ALFAA must be coordinated with K-ALFAA personnel prior shipping.



Additional ES&H Requirements

Personal Protective Equipment (PPE) is available for authorized personnel and can be obtained through your supervisor or K-ALFAA Operations staff. Closed-toed shoes are required at all times in labs. Short pants, while discouraged in any laboratory setting, are permitted. However, if a user is working with chemicals, then long pants, closed-toed shoes, and a laboratory coat are required. Note that K-ALFAA is properly resourced to prepare samples for electron microscopy but is otherwise limited for detailed chemical work.

Current User Rates per Hour

Instrument	Internal	External Educational/ Non-Profit	Industry
NanoSIMS	Max. Daily Rate \$2,610	Max Daily Rate \$2,700	Max Daily Rate \$3,610
NanoSIMS NASA Rate	Max. Daily Rate \$1,160	Max Daily Rate \$1,250	Max Daily Rate \$2,610
ThermoFisher FEI Helios dualbeam system	Assisted/Training: \$115 Unassisted Use: \$65	Assisted/Training: \$187 Unassisted Use: \$106	Assisted/Training: \$280 Unassisted Use: \$200
Hitachi HF-5000 TEM	Assisted/Training: \$110 Unassisted Use: \$60	Assisted/Training: \$179 Unassisted Use: \$105	Assisted/Training: \$350 Unassisted: \$305
Hitachi S4800 SEM	Assisted/Training: \$100 Unassisted Use: \$50	Assisted/Training: \$163 Unassisted Use: \$82	Assisted/Training: \$280 Unassisted Use: \$200
Hitachi S3400 SEM	Assisted/Training: \$100 Unassisted Use: \$50	Assisted/Training: \$163 Unassisted Use: \$82	Assisted/Training: \$280 Unassisted Use: \$200
Renishaw Raman	Assisted/Training: \$100 Unassisted Use: \$50	Assisted/Training: \$163 Unassisted Use: \$82	Assisted/Training: \$280 Unassisted Use: \$200
Hitachi tabletop SEM	\$14	\$15	\$16
Hitachi tabletop SEM NASA Rate	\$13	\$14	\$15
Labor	\$50	\$82	\$115
Coating Standard	\$5	\$10	\$20
Coating Precision/Gold	\$10	\$20	\$30

Data

Users are responsible for saving their data during or at the end of their microscope sessions. K-ALFAA is responsible for management of data once it is saved to local computers attached to instruments. Data are stored locally on instrument computers, but duplicate copies are stored on the K-ALFAA data-management server and UITS servers. After a period of one year, local copies of data will be deleted from instrument computers but copies will be retained on the data-management and UITS servers for long-term preservation. Users are encouraged to make copies of their data to store or process on their own computers. USB or other types of memory devices are not permitted in K-ALFAA lab computers. Instead, data are digitally transferred over the K-ALFAA network either through one of several kiosks in the facility that permit USB devices or through VPN.

Steps to connect to the data-management server through VPN:



1. Install the Cisco VPN client by downloading from the VPN URL (for MacOS & Windows ONLY, Linux is not supported). To do so, please type the following in the URL field of a web browser: <https://kicf-asa1.lpl.arizona.edu>. This will prompt the download of the VPN client. Once the VPN client has been installed, continue with step (2). If Cisco Anyconnect VPN client is already installed, proceed with step (2)
2. Open the client, and put the following in the address field: kicf-asa1.lpl.arizona.edu
3. Your username is the same as your UA NetID (if you are a UA affiliate). If you are NOT a UA affiliate, please contact the K-ALFAA staff which will create an account for you.
4. Your password will NOT be the same as your UA NetID password, but rather is unique to the Kuiper Imaging Lab VPN. If you don't know what the password is, please contact LPL IT to have one set up for you. Once connected to the VPN, you should be able to map the "Z" drive and transfer your data from the server to your local computer.

Acknowledgments of K-ALFAA Facilities for Conference Presentations and Publications

When results generated within the K-ALFAA are included within a conference presentation or journal publication, we require that all users to provide a copy of that publication to a member of the [laboratory staff](#), who will include the reference on the [publications page](#). A PDF copy of the paper after it appears in publication is sufficient. We require this in order to keep track of the diversity of research that occurs in the facility as well as the number of publications.

We also ask that users acknowledge the facility in their conference presentations (abstract or talk) and publications (as space allows). A statement along the lines of the following is sufficient:

We acknowledge NASA grants #80NSSC23K0327, #NNX12AL47G, #NNX15AJ22G and #NNX07AI520, #80NSSC20K1087, and NSF grants #1531243 and #EAR-0841669, Gordon and Betty Moore Foundation grant #9514, and an anonymous donor for funding of the instrumentation in the Kuiper-Arizona Laboratory for Astromaterials Analysis at the University of Arizona.

OR

We acknowledge the NASA PSEF, Cosmochemistry, Emerging Worlds, Early Career Award, Planetary Major Equipment Programs, the NSF Major Research Instrumentation Program, the NSF Division of Earth Sciences, Instrumentation and Facilities Program, the Gordon and Betty Moore Foundation, and an anonymous donor for funding of the instrumentation in the Kuiper-Arizona Laboratory for Astromaterials Analysis at the University of Arizona.

Intellectual Property: K-ALFAA assumes no ownership on data acquired by users. Our responsibility is to ensure scientific integrity and preservation of the data acquired by instrumentation in the Facility.

I acknowledge having read this agreement.

Name (Printed) _____

Name (Signature) _____