

---

## **User Agreement for Kuiper Materials Imaging and Characterization Facility (KMICF)**

### **The Kuiper Materials Imaging and Characterization Facility**

The Kuiper Materials Imaging and Characterization Facility (KMICF) at the University of Arizona is located in the basement of the Kuiper Space Sciences Building (1629 University Blvd, Tucson, AZ 85721). KMICF 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 KMICF.

### **Initiation of New Projects**

All new projects need to be discussed with a member of the KMICF 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 get users setup with accounts to reserve instrument time. The staff can be contacted individually by email or by sending an email to [ImagingKuiper@email.arizona.edu](mailto:ImagingKuiper@email.arizona.edu).

### **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 KMICF instrument scientist 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 KMICF 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 instrument scientist. Only those users who have been trained, verified, and/or approved by instrument scientists 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 provided. 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 KMICF. Thus, research performed at KMICF must be planned in coordination with KMICF staff and reviewed for environmental, safety, and health (ESH) aspects.

- All users are required to review safety procedures with one of the facility managers
- KMICF 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 KMICF labs are required to be familiar with the KMICF 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 KMICF must be coordinated with KMICF personnel prior to shipping.

### Additional ES&H Requirements

Personal Protective Equipment (PPE) is available for authorized personnel and can be obtained through your supervisor or KMICF 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 KMICF 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
<b>ThermoFisher FEI Helios dualbeam system</b>	Assisted/Training: \$115 Unassisted Use: \$65	Assisted/Training: \$187 Unassisted Use: \$106	Assisted/Training: \$280 Unassisted Use: \$200
<b>Hitachi HF-5000 TEM</b>	Assisted/Training: \$110 Unassisted Use: \$60	Assisted/Training: \$179 Unassisted Use: \$105	Assisted/Training: \$350 Unassisted: \$305
<b>Hitachi S4800 SEM</b>	Assisted/Training: \$100 Unassisted Use: \$50	Assisted/Training: \$163 Unassisted Use: \$82	Assisted/Training: \$280 Unassisted Use: \$200
<b>Hitachi S3400 SEM</b>	Assisted/Training: \$100 Unassisted Use: \$50	Assisted/Training: \$163 Unassisted Use: \$82	Assisted/Training: \$280 Unassisted Use: \$200
<b>Renishaw Raman</b>	Assisted/Training: \$100 Unassisted Use: \$50	Assisted/Training: \$163 Unassisted Use: \$82	Assisted/Training: \$280 Unassisted Use: \$200
<b>Electron Microprobe</b>	Assisted/Training: \$32 Unassisted Use: \$32	Assisted/Training: \$35 Unassisted Use: \$35	Assisted/Training: \$237 Unassisted Use: \$237
<b>Labor</b>	\$50	\$82	\$115
<b>Coating Standard</b>	\$5	\$10	\$20
<b>Coating Precision/Gold</b>	\$10	\$20	\$30

### Data

Users are responsible for saving their data during or at the end of their microscope sessions. KMICF 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 KMICF 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 KMICF lab computers. Instead, data are digitally transferred over the KMICF 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 KMICF 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 KMICF Facilities for Conference Presentations and Publications**

When results generated within the KMICF 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. 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. Such metrics help in justifying the acquisition of new instrumentation to funding agencies.

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 #NNX12AL47G and #NNX15AJ22G and NSF grant #1531243 for funding of the instrumentation in the Kuiper Materials Imaging and Characterization Facility at the University of Arizona.

OR

We acknowledge the NASA Cosmochemistry, Emerging Worlds, and Planetary Major Equipment Programs and the NSF Major Research Instrumentation Program for funding of the instrumentation in the Kuiper Materials Imaging and Characterization Facility at the University of Arizona.



---

**Intellectual Property:** KMICF 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) \_\_\_\_\_