

## **R.I. Consortium for Nanoscience and Nanotechnology**

### **Transmission electron microscope usage policy**

#### **A. Hours of Operation**

1. Monday to Friday from 9:30 am to 4:30 pm for supervised usage, 24/7 for independent users. All appointments are listed on our [reservation calendar](#).

#### **B. Specimen Grid Preparation**

1. Inform the manager if you will need training on specimen preparation. Also confirm with the manager that your specimen is suitable for analysis. Certain conditions are not suitable depending on the type of analysis to be performed (e.g. "dirty" specimens, residual solvents).
2. *Regular TEM (i.e., not cryogenic)*. Users should prepare specimens prior to the appointment **in consultation with the instrument manager**.
3. *Cryo-TEM*. A robotic vitrification system (Vitrobot) is available in the TEM facility for cryo-TEM specimen preparation. Users will be allowed to operate the instrument after sufficient training. 1-2 hrs may be required for cryo-TEM specimen preparation. Both specimen preparation time and imaging time will be charged if performed by the manager. Investigators may store cryo-specimen grids in cryogenic storage (liquid nitrogen) for up to 5 days in the facility. Extended storage may be possible upon request.

#### **C. Instrument Usage**

1. *New users* must contact [engimg@etal.uri.edu](mailto:engimg@etal.uri.edu) with a brief description of the type of work to be performed and approximate time frame.
2. New users will be asked to complete and submit a "User Registration Form".
3. Instrument manager will assist new users in specimen preparation. After the right specimen preparation technique has been found, users will prepare their own specimens prior to the imaging session.
4. The manager will operate TEM during imaging.
5. *Advanced users* will be selected by the instrument manager on a case-by-case basis and will be able to operate the instrument independently. The manager will be available to assist. Advanced users will book time by emailing [engimg@etal.uri.edu](mailto:engimg@etal.uri.edu) after consulting the reservation calendar.
6. The minimum facility usage charge will be 0.5 and 1.0 hour for regular and cryo-TEM, respectively. Click here to view [user rates](#).
7. It is recommended that users schedule at least 1.0 and 2.0 hours for regular and cryo-TEM operation, respectively.
8. Only the time actually required for user's specimen preparation (if any) and imaging will be charged.
9. Beginner users will be charged for specimen preparation and microscope time. However, advanced users will be charged only for microscope time.
10. The charge for TEM training, which includes specimen preparation, alignment, and imaging, is the same as the hourly facility usage charge.
11. The user will respect the instruction on the corresponding standard operating protocol, available as a hard copy in the facility, and the directions given to them by the instrument manager during training and subsequent usage.
12. The instrument manager will revoke user rights in case of instrument misuse.
13. The **hours must be logged in** using the [web form](#) 24 h after instrument use, at the latest.

14. The **use of the facility must be acknowledged** in any publications by including the following text in the Acknowledgements section: "*The TEM data was acquired at the RI Consortium for Nanoscience and Nanotechnology, a URI College of Engineering core facility partially funded by the National Science Foundation EPSCoR, Cooperative Agreement #OIA-1655221.*"

#### **E. Data Management**

1. All results (images, spectra, etc.) are stored in local hard drive. Users will be allowed to copy their files from the local PC using a **USB flash drive**. Data will not be stored indefinitely and it is the user's responsibility to save their data in a timely manner.
2. We plan to offer cloud service via *Google Drive* in future.