

## Recharge Rates for the 3D X-ray Microscope & Accessories

### Scanning Services Recharge Rates

Service	Internal Rate	External Rate*
<b>Scan Provided</b> (per scan hour)	\$33	\$52
<b>Self Scan</b> (per scan hour)	\$30	N/A
<b>Training or Analysis</b> (per hour)	\$41	N/A
<b>Exploratory Analysis</b> (per set-up hour)	\$40	\$63

\* The external rates represent the internal rate with the negotiated F&A research rate applied. F&A rates are subject to change upon negotiations with the Federal government.

### Scanning Services Definitions

- **Scan Provided** (per scan hour) is a full service scan facilitated from start to finish by staff within the recharge center. Analysis includes 3D reconstruction and visualization. For additional analysis, such as segmentation, porosity analysis, etc. please see the **Analysis** rate.
- **Self Scan** (per set-up/scan hour) service is for Purdue University faculty, staff, and students that have been trained by recharge center staff to effectively, efficiently, and safely use the instrumentation. To utilize this service, a recharge center staff member will train the individual on use of the instrumentation for their first three scans (see training description). The user also has to complete and sign a liability form. Prior to a scan appointment, a completed account information form should be submitted to Prof. Pyrak-Nolte (ljpn@purdue.edu).
- **Training or analysis** (per hour) services are (a) charged hourly during the *required* training for self scan usage of the 3D XRM Versa 510 System or (b) charged hourly for additional analysis provided by the staff.

\*The trainee must complete and sign both (i) the liability form and (ii) the account information form prior to the initiation of training. The hourly training rate covers set-up and initiation of the scan and post-scan finalization and validation of the scan. On average, each of the three training session will last approximately 3 hours (at the **Training rate**) plus the scan time. During training scans, the cost for X-ray scanning time will be billed at the **Self Scan hourly rate**. The training and scan time may vary based on the complexity of the scan among other factors. The center staff retain the right to require additional training if the user is deemed not fully competent after 3 training sessions.

\*The analysis rate applies to requests for additional analysis of the scans (e.g. segmentation, porosity analysis, etc) performed by the center staff.

- **Exploratory Analysis** (per set-up hour + analysis time) services are performed by the staff and recommended for situations where a researcher have never performed micro-CT on a sample, does not know the feature location and also if the scan parameters are unknown for a particular

sample (e.g. number of projections and/or different exposure times) to determine if the desired information can be obtained for their specific material and structure. These exploratory analyses require additional effort by the recharge center staff to mount the sample, set-up and explore scan parameters as directed for the specific material/structural feature, and analysis for visualization. After the exploratory analysis, if a customer decides to proceed with a full 3D scan, the full scan would then be billed at the **Scan Provided** (per scan hour) rate.

***Definition of scan time:***

For **Self Scan services**, charges for scan time begin as soon as the X-rays are turned on to build a recipe, select a filter, and perform any 2D imaging, etc., and continue until the full scan specified tomographic recipe is completed (including time for automatic reconstruction).

Try to limit set-up and removal of a sample to less than 10-20% of the estimated total scan time to enable machine availability for other users. If a user cannot immediately remove a sample or requires assistance to remove a sample, please contact the 3D XRM staff.

For **Exploratory Scan** services, charges include time to mount, load and align a sample, selection of a region of interest to scan, recipe building, X-ray scanning, and 3D reconstruction and visualization (segmentation, porosity analysis, etc).

For the **Scan Provided, Self Scan** and **Training** services, users will not be charged for the time taken to mount, load and align a sample in the microscope prior to turning on the X-rays.

The account information form is on page 3.

**Account Information**

Account Number: \_\_\_\_\_ Estimated Number of Hours: \_\_\_\_\_  
Select Scan Service: \_\_\_\_\_ Estimated Cost: \_\_\_\_\_

**User Information**

Employee Name: \_\_\_\_\_ Duration of Use: \_\_\_\_\_  
Employee ID: \_\_\_\_\_ Department: \_\_\_\_\_  
Email: \_\_\_\_\_ Telephone: \_\_\_\_\_

**Professor/Supervisor Approval for Use of Account Number**  
**(\*The undersigned recognizes that actual usage hours may be greater or less than the actual hours, and agrees to pay for "actual hours of usage".)**

Supervisor: \_\_\_\_\_  
Email: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Signature: \_\_\_\_\_

**Confirmation of Receipt**

Date Received: \_\_\_\_\_  
Approval: \_\_\_\_\_  
Signature: \_\_\_\_\_

**Physics & Astronomy Business Office Use:**

To be filled in by X-ray Microscope Staff:  
Actual Hours of Scan Time: \_\_\_\_\_  
Name of Staff verifying X-ray scan time: \_\_\_\_\_