

Surface Science Laboratory Fee Schedule

Equipment

The Surface Science Lab (SSL) is equipped with an FEI Phenom tabletop SEM, 3 Bruker (formerly Veeco/Digital Instruments) scanning probe microscopes, a Hysitron TS 75 TriboScope, and a suite of SPM-based techniques enabling interdisciplinary research on material systems and devices. Note that none of the instruments is covered by a service agreement, so great care must be exercised in using/operating these tools. The focus of the Surface Science Lab is undergraduate and graduate student research in support of the Nanoscale Materials and Device Group (<http://boisestate.edu/nano>). For projects outside of the group (e.g., internal or external academic researchers, government agencies, or industry partners), the Phenom SEM and a Dimension 3100 SPM with a Nanoscope IV controller are available for use by qualified outside users (see below for details regarding training). Two other SPMs are also available (a Multimode 8 and a Dimension Icon/FastScan, both with Nanoscope V controllers), but imaging with these systems is performed by SSL personnel given the high cost of repairing the SPMs should they incur damage.

Training

Whether a user will actually be trained to use the instrumentation independently or only work with SSL personnel to gather the data will be decided on a case-by-case basis. We are looking for users that will most likely use the SSL over a long period of time (at least a year) and do so with adequate frequency (once a month or several times a semester) to minimize the need for retraining. Users that do not meet the usage requirement will be required to undergo retraining and pay for associated SSL personnel time.

Fees

Internal Users (BSU)

The SSL is committed to providing access to internal users (i.e., BSU faculty) at minimal expense. Internal users will be asked to pay for direct costs (SSL personnel time and probe costs) from their grant(s), and to donate what they can from their local (unrestricted) account(s) to help offset indirect costs associated with maintaining the SSL (currently ~\$3/hr). Each faculty member will be treated on an individual basis based on their available funding.

External Users (Academic/Government)

External users performing work for federally funded research projects will be asked to pay for direct costs (SSL personnel time and probe costs) from their grant(s). External users that are trained to operate the SEM, SPM, and/or TriboScope independently will be charged for SSL personnel time associated with training and certification (minimum of 2-4 hours for experienced users and 8-10 hours for new users), including retraining (minimum 2-4 hours) as necessary. In addition to direct costs, external academic/government users are required to cover BSU's indirect costs (currently ~39%).

Facilities Use Agreement

Please note that a *Facilities Use Agreement* is required for all external (i.e., non-BSU) users planning to personally operate the Phenom SEM, D3100 SPM, or Hysitron Triboscope. The *Facilities Use Agreement* is a legal document permitting a customer to utilize Boise State University facilities, equipment and/or services. A copy of the *Facilities Use Agreement* document is available upon request.



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