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Request to use the Bruker D8 Advance XRD

Purpose of this Form

This form is required for all new users interested in using the X-ray diffractometer. An additional form should be completed for each new research project using the XRD. The lab guarantees high-quality data to all users; therefore, all users must provide as much information about their samples as possible before the lab manager will allow time on the instrument.

This form serves as an agreement between the lab manager, the user, and the account holder/faculty advisor. A signature by the primary user and the person responsible for payment is required. By signing this form, the user and account holder/advisor agree to the terms posted below regarding data quality, sample preparation, and instrument down-time.

Data quality: Data quality is difficult to assess for XRD measurements. The lab manager can analyze a standard material (e.g. quartz, corundum, or garnet) to assess data quality for a given instrument setup. However, users should note that one XRD setup will not be suitable for all materials.

Sample preparation: All analyzed materials should be smaller than one (1) micrometer, either by grinding the sample or other form of separation. Samples that feel gritty will not be analyzed.

Interpretation of data: Lab personnel are not responsible for the interpretation of data.

Instrument down-time: Time on the instrument will not be charged if the instrument malfunctions during a scheduled shift. If the lab manager can fix the instrument within one (1) hour, the user will be charged for the entire shift. If the malfunction cannot be fixed within one (1) hour, the lab manager will work with the user to reschedule time on the instrument.

Payment: Invoices for instrument usage are billed promptly. Users and account holders/advisors (if applicable) are responsible for rapid confirmation of charges and billing information. Users and account holders/advisors are also responsible for providing the lab manager with up-to-date billing information.

Instrument training and instructions: All users must be trained before using the instrument. Users must follow the instructions provided during training and in the operation manual. Any user caught not following instructions will be asked to leave the lab.

User Information

Name of Primary User: _____

Dept.&Group (internal users) or University/Company (external users):

Position (internal users only): _____
(undergraduate, graduate, postdoc, researcher, faculty)

Contact information

Email (required): _____

Advisor/Account holder email (required): _____

User phone/cell # (required): _____

Describe your level of experience (circle one)

Novice/Inexperienced: You have either never taken an electron microscopy course or have taken such a course but have not used an XRD in over 1 year. A novice user would need extensive assistance.

Intermediate: You have taken an electron microscopy course, have used the XRD at UT, and/or have used an XRD elsewhere. A user with intermediate experience would have at least 2 years of hands-on experience using an XRD. A user that has intermediate experience would need some assistance from the lab manager or lab assistant.

Expert: You are proficient with the use and maintenance of an XRD (this requires years of experience). An expert user would not need the assistance of the lab manager or lab assistant.

Type of use desired (circle one)

Independent: Requires permission from the lab manager. A short-course is offered by the lab manager for those researchers that are not familiar with the XRD and wish to become an independent user. Note that independent users are not provided with 24/7 access to the facility. Independent users must conduct all work during business hours (8AM to 5PM, M-F).

Assisted: The lab manager or lab assistant will help setup the instrument, collect and assess data on standards, and train the user how to analyze the unknowns (samples).

Immediate Need: Should an immediate need of the instrument arise, users should add 'URGENT' to the title of the proposal (i.e. URGENT: [Title]). The reason for the immediate need should be described in the project abstract. It is up to the discretion of the lab manager to approve or deny any request for immediate instrument usage.

Billing Information

Method of payment (circle one): Check Wire transfer UT account number

UT account # (if applicable): _____

Name of account (if applicable): _____

Billing address: _____

Analytical Setup

New users should consult with the lab manager regarding analytical setup. This portion of the form can be completed with the lab manager, if needed.

- 1) Scan range (2θ): _____ to _____
- 2) Time per step (s): _____
- 3) Step size ($^{\circ}$): _____
- 4) Number of steps: _____

Scheduling Information

Please indicate the amount of time needed to complete the project. Multiple shifts/days can be reserved with approval of the lab manager.

By signing this form, you (the user and advisor/account holder) agree to use the instrument only for the purposes described above.

Signature of user: _____ Date: _____

Approved by: _____ Date: _____
(signature of advisor or account holder)

