

The Center for Materials Science and Engineering at MIT
Users Guide to Using Coral

This guide includes instructions for:

- Gaining access to equipment in the CMSE
- Registering an account in CMSE MUMMS
- Using CMSE Coral to reserve an instrument
- Using CMSE Coral to log your instrument use time
- Using CMSE Coral to report a problem with an instrument

In order to use any of the equipment in the Shared Experimental Facilities (SEF) of the Center for Materials Science and Engineering (CMSE) at MIT, you must:

1. Register in CMSE MUMMS. See below for instructions.
2. Talk to the appropriate SEF Staff person about what instrument you should use and how to get trained on that instrument.
 - a. In most cases, you are expected to become trained on an instrument so that you can collect data as an independent user. If you only need to collect data from one or two samples, then you may ask the SEF staff to help you collect data as an assisted user.
 - b. *Optical and Thermal Characterization (FTIR, Raman, UV-Vis Spectrophotometer, Profilometer, DSC, Optical Microscopes)*
Project Technician, Thermal Analysis: Timothy McClure, 13-4149, x8-6470
 - c. *Surface Characterization (Auger, XPS, AFM)*
Research Specialist, Surface/Spectroscopy: Elisabeth Shaw, 13-4149, x3-5045
 - d. *Crystal Growth (including Squid Magnetometer)*
Research Scientist: Shaoyan Chu, 13-3134, x3-0054
Technical Assistant: Patrick Boisvert, 13-1018, x8-9140
 - e. *Electron Microscopy*
Research Specialist, STEM: Shiahn Chen, 13-1027, x3-4622
Research Specialist, SEM, TEM: Yong Zhang, 13-1034, x3-5092
Technical Assistant: Patrick Boisvert, 13-1018, x3-3317
 - f. *X-Ray Diffraction*
Research Specialist: Scott Speakman, 13-4009A, x3-6887
3. Complete all pre-requisites required for accessing the SEF. Pre-requisites include:
 - a. Complete the EHS web-based Chemical Hygiene Training, class EHS0100w-A.
 - i. To have credit for completing this requirement, you must also be current in the lab specific safety training
 - b. Complete the EHS web-based Managing Hazardous Waste training. You must renew this training every year.
 - c. Read the CMSE Chemical Hygiene Plan (CHP). You may download the CHP from, watch the CMSE CHP video available at, or see Ed Kruzal in 13-2070 to receive a copy of the CHP.
 - d. See Ed Kruzal to sign a form acknowledge that you have reviewed the CMSE CHP.
 - e. Complete the Lab Specific Safety Training taught by individual SEF staff for each facility.

- f. Complete any other safety training required, as instructed by SEF staff. This additional training includes, but is not limited to:
 - i. EHS X-Ray Safety: Analytical/Industrial class #EHS0361c-A for access to the X-Ray SEF
4. Complete the instrument specific training for each instrument that you want to use. Every instrument requires specific training for that instrument, with one or two exceptions.
 - a. For example, receiving training for the Rigaku X-Ray Powder Diffractometer does not allow you to use the PANalytical X-Ray Powder Diffractometer. If you want to use both instruments, you must complete two separate training requirements.

CMSE Coral is composed of two parts:

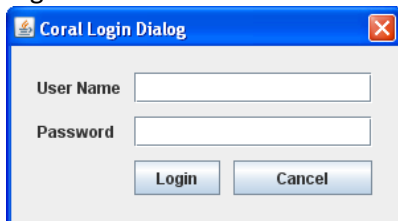
1. CMSE MUMMS is a web-based application to manage your account and lab access. Before using any equipment, you must register in MUMMS.
2. CMSE Coral is a stand-alone application for lab management. You will use CMSE Coral to reserve instruments and to record your instrument use for billing purposes.

The guide below includes instructions for:

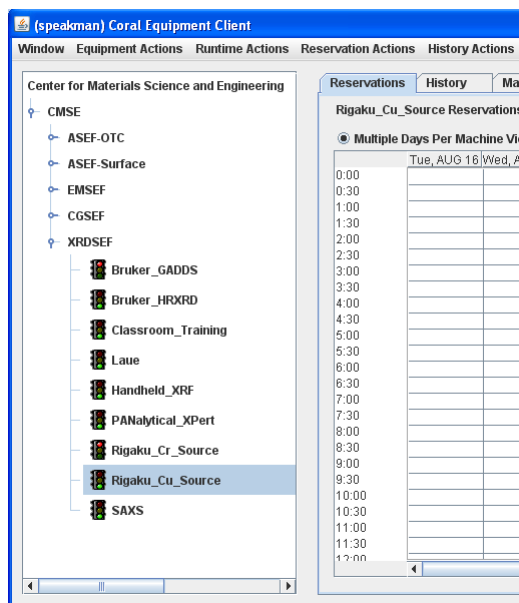
1. Registering in CMSE MUMMS
2. Installing CMSE Coral on any computer.
3. Reserving an instrument using CMSE Coral
4. Recording instrument use in CMSE Coral

When you start the data collection software, Coral should automatically start. If it does not, then click on the Coral link to start Coral.

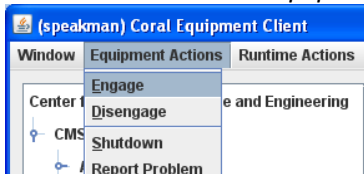
1. Log in to Coral



2. Expand the list in the left pane so that you see the instrument that you are using. Select that instrument.

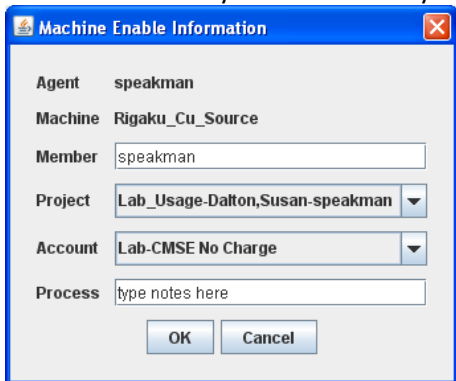


3. Select the menu item *Equipment Actions > Engage*



4. Fill out the following dialogue. The entries will be:

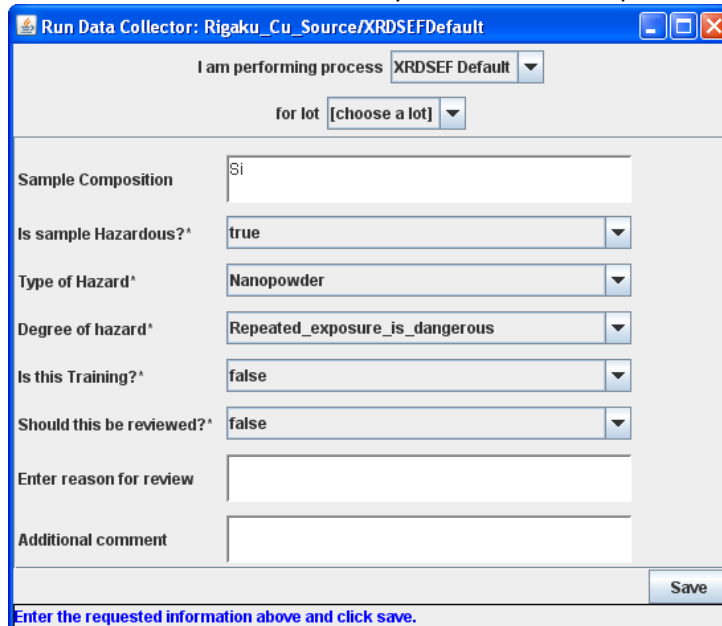
- Member—this will be your username
- Account—If you have multiple account numbers, you will select the one that you want to use.
- Process—you can enter any miscellaneous notes here.



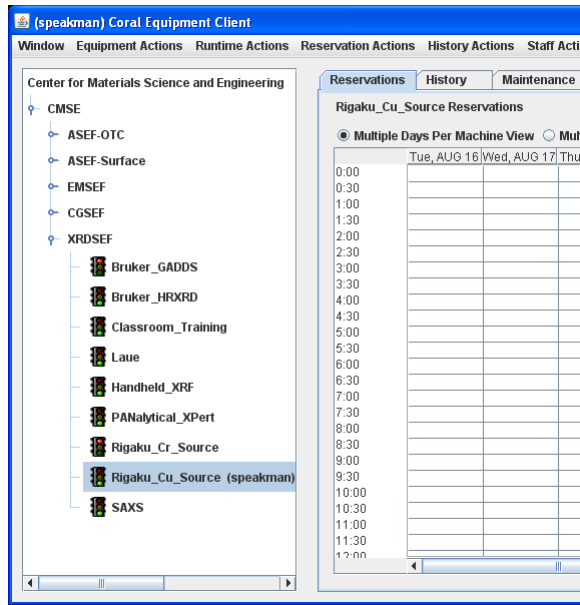
5. The next dialogue will ask you for more information. This dialogue will vary for each different instrument. For the X-Ray SEF, you will always fill out the fields:

- Sample Composition—provide the general composition of your sample(s), so that we know if it contains any hazardous elements
- Is sample Hazardous—set to true if your sample poses any health hazards. Note that all nanocrystalline powders are considered hazardous
- Type of Hazard—select the most significant health hazard posed by your sample. Your choices are:
 - Not hazardous
 - Carcinogen

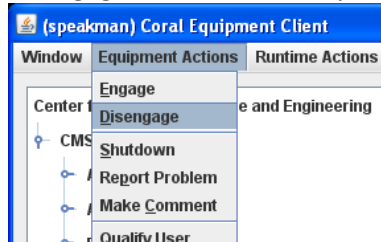
- iii. Corrosive
 - iv. Flammable or highly reactive
 - v. Irritant
 - vi. Nanopowder
 - vii. Respirable
 - viii. Toxic
- d. Degree of Hazard—indicate how severe the hazard is. Your choices are:
- i. Not hazardous
 - ii. Repeated exposure is dangerous
 - iii. Exposure is dangerous to reproductive health
 - iv. Single exposure is dangerous
- e. Is this Training—should be set to false
- f. Should this be reviewed—if you need SEF staff to review your entry, then set this to true. In the field below, enter the reason for review. The most common case where you would use this is if you forgot to engage or disengage the instrument and you need the SEF staff to correct your instrument usage time. In this case, you should fill out the “Enter Reason for Review” field as:
- i. Forgot to engage instrument, so recorded incorrect time. Instrument was used for 4 hours.
 - ii. Forgot to disengage instrument, so recorded incorrect time. Instrument was used for 4 hours.
- g. Additional comment—record any other notes of import here.



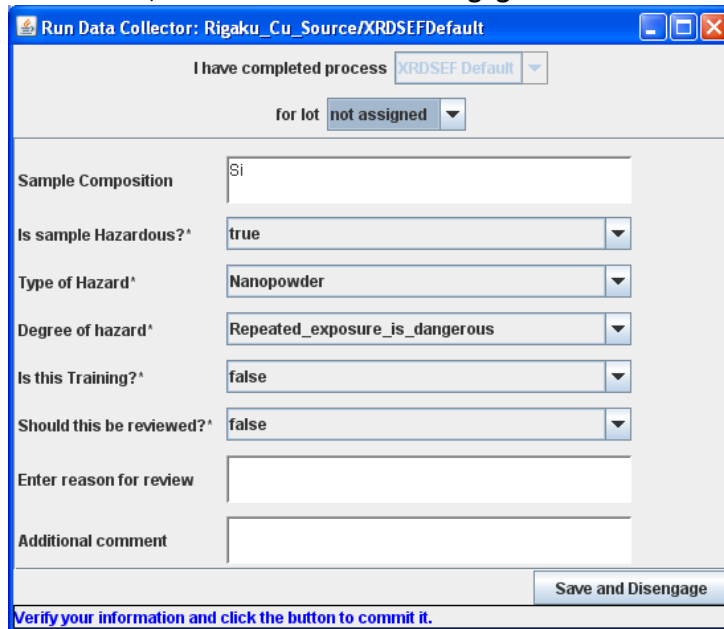
6. Click the **Save** button
7. In the instrument list in the left pane, your name will now appear in parentheses after the instrument name, showing that you are using the instrument
8. When you are done collecting data,
 - a. Select the instrument that we were using from the instrument list in the left pane



b. disengage the instrument by selecting the menu item *Equipment Actions > Disengage*



c. A dialogue will ask you to confirm your earlier entry information. Review this information, then click **Save and Disengage**



Verify your information and click the button to commit it.

Comment for Vicky/ Coral team—there is no way to cancel engaging an instrument once I am at the

screen.

How to reserve an instrument

1. Log in to Coral

(speakman) Coral Equipment Client

Window Equipment Actions Runtime Actions Reservation Actions History Actions Staff Acti

Center for Materials Science and Engineering

- CMSE
 - ASEF-OTC
 - ASEF-Surface
 - EMSEF
 - CGSEF
 - XRDSEF
 - Bruker_GADDS
 - Bruker_HRHRD
 - Classroom_Training
 - Laue
 - Handheld_XRF
 - PANalytical_XPert
 - Rigaku_Cr_Source
 - Rigaku_Cu_Source (speakman)**
 - SAXS

Reservations History Maintenance

Rigaku_Cu_Source Reservations

Multiple Days Per Machine View

	Tue, AUG 16	Wed, AUG 17	Thu
0:00			
0:30			
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