URinc

University of Rochester Integrated Nanosystems Center
Goergen/Wilmot Complex River Campus Rochester, NY 14627

Description

Tool: Zeiss Auriga SEM/FIB
Location: Wilmot 206
In Service Date: 8-2010

Purpose of Tool: High resolution imaging, x-ray compositional analysis, Focused ion beam etching, TEM sample prep, ion assisted metal deposition

Materials:
- Substrate: Varies
- Depositions: Pt
- Gases: N2(vent), mo-Pt
- Other:

Procedures: Varies
Typical Results: Nanofabrication, high resolution images

Limitations: Sample size, vacuum compatibility, electrical conductivity

Special Considerations: Chamber geometry and sample manipulation
Training Required for Use? Yes
Recipes? Yes

Engineer in Charge: Brian McIntyre

Generalized Procedure for Operating the Auriga SEM/FIB

A if system is in standby (yellow button) push green button
B. if system is in off state (red button) call Brian
C. otherwise:

Startup computer (poweruser (UN) and sem (PW))
Load smartSEM
Use YOUR username and password
Start PIP camera view
Put sample(s) on sample stage (wear a glove)
Open STAGE POINTS LIST and double click on $exchange
VENT airlock
Place sample stage on airlock platform and screw in sample exchange rod
Close airlock door
Push TRANSFER button
When gate valve opens push sample rod (by white disc) onto the stage dovetail (it should mate easily; if not check sample mount pins.)
Unscrew and retract sample exchange rod to its park position
Push STORE button
Push RESUME button on keyboard
Move stage as appropriate (BE CAREFUL)
Turn on high voltage (EHT on)
Adjust EHT (double click on data field entry)
View samples

Record images

Choose store resolution
Choose slow scan rate (>8)
Push freeze button
Right click on image
Store a tiff or jpeg as desired

Shutdown when you're done

ALL-→EHT off
Move samples with Z to a low position
Push EXCHANGE button on keyboard
Push Transfer button on airlock
Insert exchange rod and screw into stage. Pull out to park position.
Push VENT button
Remove sample stage and samples
Close airlock and push STORE button
Quit smartSEM

Notes: EDS intersection distance is now 5mm
STEM or FIB operation require specific training by Brian

Brian's home#: 394-0572
Cell#: 301-3145