

Course Outline
Problem Solving with SEM,
X-ray Microanalysis, and Electron Backscatter Patterns
 June 14-18, 2010

5:00-8:00 **Sunday, June 13 (evening)**
 Registration (Whitaker Lobby)

Day One Monday, June 14
 8:30-8:35 Welcome
 8:35-10:00 Critical Concepts for Problem Solving
 with SEM Imaging
 10:00-10:20 Break
 10:20-12:00 Lab: SEM Image Interpretation
 12:00 Lunch
 1:15-3:00 High Performance SEM
 (Sources, Detectors)
 3:00-3:30 Break
 3:30-5:00 Lab: SEM High Resolution
 5:30 Dinner
 7:00-9:00 Lab: Student Problems I

Day Two Tuesday, June 15
 8:30-10:00 Problem Solving with EDS X-ray
 Microanalysis
 10:00-10:20 Break
 10:20-12:00 Lab: EDS X-ray Microanalysis
 12:00 Lunch
 1:15-3:15 Lab: Monte Carlo Image Modeling
 3:15-3:30 Break
 3:30-5:00 Lecture/Lab: Making SEM Dimensional
 Measurements (Including Stereo and
 Application of Monte Carlo)
 5:30 Dinner
 7:00-8:15 Advanced Specimen Prep with Ion Beams
 8:15-8:30 Demo: Specimen Prep with the FIB
 8:30-9:30 Lab: Looking at the FIB Cuts

Note: All classes and labs will be held in Whitaker Lab

Disclaimer: The organizers reserve the right to change the instrumentation or sequence of lecture topics and to cancel lectures or substitute lecturers if necessitated by circumstances beyond their control. Updated 9/15/09.

Day Three Wednesday, June 16
 8:30-10:00 VPSEM/ESEM Imaging
 10:00-10:30 Break
 10:30-12:00 Lab: VPSEM/ESEM Imaging
 12:00 Lunch
 1:15-3:00 Lecture/Lab: Digital Image Processing
 (NIH-IMAGE-J)
 Break
 3:00-3:30 Lab: Sample Preparation
 3:30-5:00 Cocktail hour and banquet
 6:30

Day Four Thursday, June 17
 8:30-10:00 Low-Voltage SEM/VPSEM/ESEM/
 X-ray Microanalysis
 10:00-10:30 Break
 10:30-12:00 Lab: Low-Voltage SEM/VPSEM
 ESEM/X-ray Microanalysis
 12:00 Lunch
 1:15-2:45 Electron Backscatter Diffraction
 (EBSD)
 Break
 2:45-3:00 Lab: EBSD
 3:00-5:00 Dinner
 5:30 Lab: Student Problems II
 7:00-9:30

Day Five Friday, June 18
 8:30-10:00 Problem Solving Live
 10:00-10:30 Break
 10:30-12:00 SEM/EDS/EBSP Problem Solving is
 Just the Start: Where Do We Go From
 Here?
 12:00 Lunch
 (box lunches – Whitaker Lobby)