

**Workshop 2: Unique Tools for Energy Research: Chemical Analysis of Nanostructures
Using Electron Energy Loss Spectroscopy (EELS) and Energy-Dispersive X-ray
Spectroscopy (EDS)**

www.bnl.gov/cfn/groups/thinilm/2012-EELS-EDS-workshop/2012-EELS-EDS-workshop-CFN.htm

Part I: Monday, May 21, 2012 (CFN Building 735, Conference Room in 2nd floor)

12:30-1:30 PM	Lunch at Berkner Hall
1:30-1:40 PM	Welcoming Remarks Dong Su, Fernando Camino, CFN
1:40-2:20 PM	Phil Batson, Rutgers Univ. <i>"Nanoscale Structural, Plasmonic and Electronic Behavior Using EELS and Aberration Corrected STEM"</i>
2:20-3:00 PM	Marek Malac, NINT, Canada <i>"Angle- and Spatially-Resolved EELS"</i>
3:00-3:40 PM	Matt Libera, Stevens Institute of Technology <i>"Spectroscopic Imaging of Radiation-Sensitive Soft Materials"</i>
3:40-4:00 PM	Coffee break
4:00-4:40 PM	Huolin Xin, Lawrence Berkeley National Laboratory <i>"Spatial Resolution, Artifacts, Contrast, Mechanisms and Strategies for Recording EELS Spectroscopic Images for Different Energy Regimes"</i>
4:40-5:20 PM	Feng Wang, Brookhaven National Laboratory <i>"TEM-EELS Studies of Electrode Materials for Li-Ion Batteries"</i>
5:20-5:30 PM	Important announcements
5:30 PM	Workshop adjourns

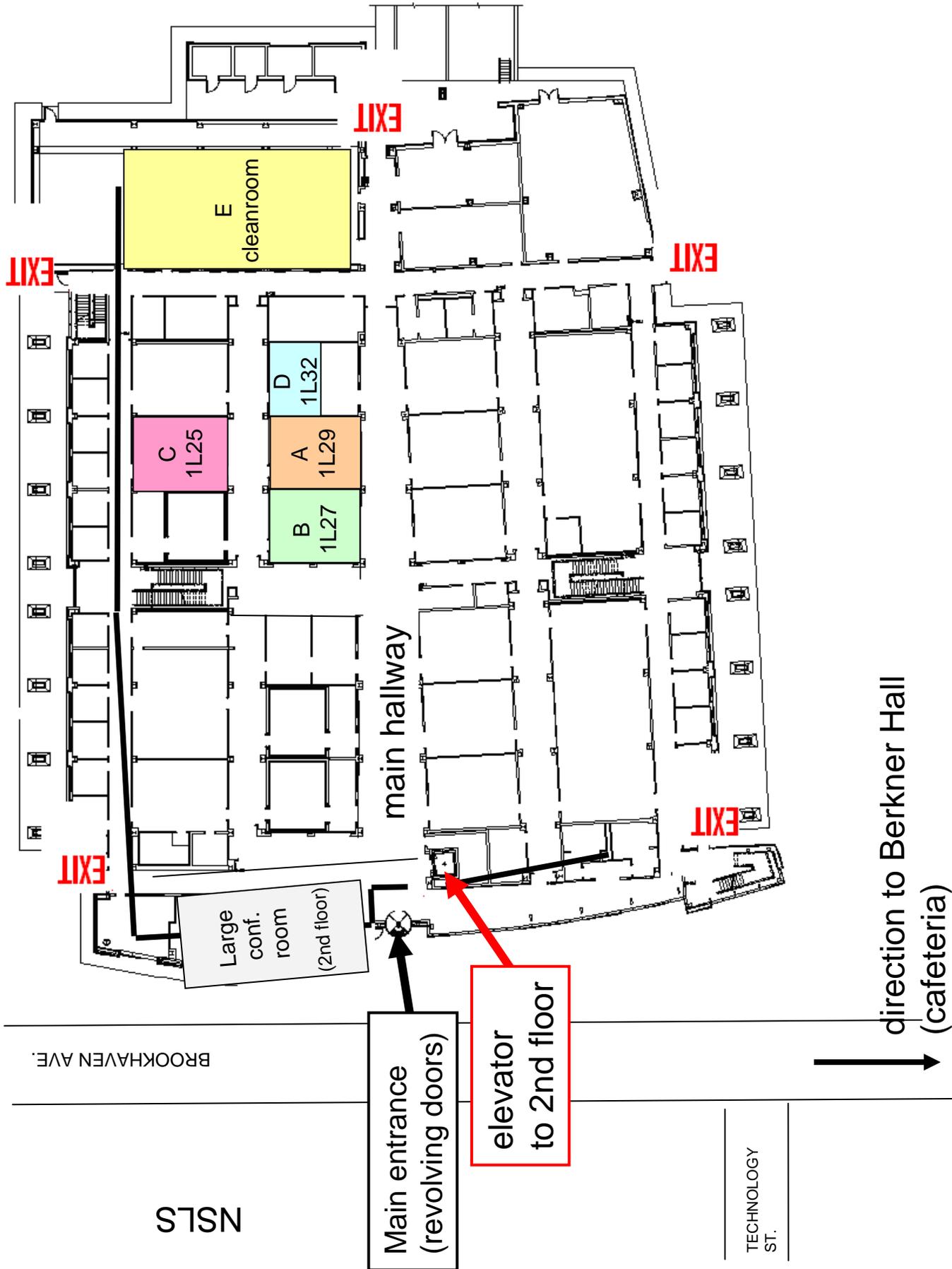
Part II: Tuesday, May 22, 2012 (CFN Building 735, Conference Room in 2nd floor)

12:30-1:30 PM	Lunch at Berkner Hall
1:30-2:10 PM	Nestor Zaluzec, Argonne National Laboratory <i>"Pushing the Limits of XEDS and EELS Spectroscopy in the Analytical Electron Microscope: Current Technology and Future Prospects"</i>
2:10-2:50 PM	Fred Cosandey, Rutgers Univ. <i>"Valence and Chemical Determination of Li-Battery Using EELS"</i>
2:50-3:30 PM	Nan Jiang, Arizona State Univ. <i>"EELS Studies of Materials for Solar Power and Solid-State Battery Applications"</i>
3:30-3:50 PM	Coffee break
3:50-4:30 PM	Richard McLaughlin, Oxford Instruments <i>"Challenges and Considerations for EDS Analysis of Nanostructures"</i>
4:30-5:10 PM	Neil Rowlands, Oxford Instruments <i>"Factors Affecting Quantitative EDS Analysis in the TEM"</i>
5:10-5:30 PM	Important announcements
5:30 PM	Workshop adjourns

Part III (hands-on): Wednesday, May 23, 2012 (CFN Building 735, Conference Room in 2nd floor)

- **Lab station A (Hitachi HD 2700C STEM + EDS/EELS capabilities):**
Dong Su, CFN
"Chemical Analysis of Interfaces in Functional Oxide Thin Films"
- **Lab station B (JEOL 2100F HRTEM + EDS capabilities):**
Neil Rowlands, Oxford Instruments; Lihua Zhang, CFN
"Getting the Best EDS Results from your Analytical TEM"
- **Lab station C (FEI Titan 80-300 Environmental TEM + EDS/EELS capabilities):**
Rosa Diaz Rivas, CFN
"Capabilities of Environmental Transmission Electron Microscopy in Catalysis"
- **Lab station D (JEOL 7600F HRSEM + EDS/WDS capabilities):**
Richard McLaughlin, Oxford Instruments
"Optimizing your SEM and EDS System for Nanoanalysis"
- **Lab station E (FEI Helios dual beam SEM/FIB + EDS capabilities):**
Simerjeet Gill, NSTD-BNL; Fernando Camino, CFN
"EDS Mapping of Materials with Different Composition (Phase Mapping)"

8:00-8:30 AM	Breakfast at building 735 (2 nd floor conference room)
8:30-8:50 AM	Organizational remarks
8:50-9:00 AM	Time for participants to get to their respective lab stations
9:00-10:00 AM	Lab stations A, B, C, D and E
10:00-10:10 AM	Meet in main lobby (1 st floor) Time for participants to get to their respective lab stations
10:10-11:10 AM	Lab stations A, B, C, D and E
11:10-11:20 AM	Meet in main lobby (1 st floor) Time for participants to get to their respective lab stations
11:20-12:20 PM	Lab stations A, B, C, D and E
12:20-12:30 PM	Workshop wrap up (2nd floor)
12:30-1:30 PM	Lunch at Building 735 (2 nd floor)



NSLS

TECHNOLOGY ST.

BROOKHAVEN AVE.

Main entrance (revolving doors)

elevator to 2nd floor

direction to Berkner Hall (cafeteria)

EXIT

EXIT

EXIT

EXIT

EXIT

Large conf. room (2nd floor)

C 1L25

B 1L27

A 1L29

D 1L32

E cleanroom

main hallway