

Cryo-sample preparation and correlative LM-EM techniques workshop

March 16 and 17, 2009

Electron Microscopy Core Facility @ University of Maryland, Baltimore, Maryland

The purpose of this seminar is to discuss the rapidly evolving new techniques for high pressure freezing, freeze substitution and cryosectioning. The use of correlative LM and EM techniques will be shown via a "live" video format. There will be a Special emphasis on step by step procedures. Topics of discussion will include:

- How to optimize freezing for a wide variety of samples
- How to cut cryo sections of frozen hydrated and sucrose infiltrated samples.
- Strategies for Freeze substitution
- Live cell imaging
- Tomography



March 16, 2009	
9:00-9:30	Registration
9:30-10:30	Dr. Gina Sosinsky, UCSD preservation methods and the electron tomography revolution in cellular 3D structures
10:30-11:00	Break
11:00-12:00	Dr. Kim Rensing, Leica-Microsystem Cryo preparation Pathways to Co-relative Microscopy
12:00-1:00	Lunch, lunch box will be provided
1:00-5:00	<p>Virtual and Hands-on Demonstrations^a</p> <ul style="list-style-type: none"> • Cryo sectioning: Cryo-ultramicrotome (Leica EM UC6) • High pressure Freezing: High pressure freezer and rapid transfer system (Leica EM PACT2 & RTF) • Cryo processing: Freeze substitution system (Leica EM AFS2) • Immunolabeling: Automatic immunogold labeling system (Leica IGL) <p>Small group demonstration will be scheduled after preregistration</p> <p>It is possible for registered participant to bring in their own sample for processing^b</p>
6:00-6:30	Drinks & Social
6:30-7:30	Joint Dinner event with Chesapeake Microscopy Society
7:30 -8:30	Dr. Thomas Blanpied, University of Maryland Imaging the dynamic organization of living synapses
March 17, 2009	
9:00-9:30	Roundtable clinic: Immunolabeling
10:00-10:30	Roundtable clinic: Ultramicrotomy
11:00-11:30	Roundtable clinic: EM sample processing
1:00-5:00	<p>Equipment demonstration and Hands-on</p> <ul style="list-style-type: none"> Cryo-ultramicrotome (Leica EM UC6) High pressure freezer and rapid transfer system (Leica EM PACT2 & RTF) Freeze substitution system (Leica EM AFS2) Automatic immunogold labeling system (Leica IGL)

^a Demo instruments will be available after March 17th for scheduled evaluations.

^b Please indicate on your registration form if you wish to bring in your own sample for processing.

For Registration : Visit our website <http://www.dental.umaryland.edu/Core-imaging/cryoworkshop>.