

**Name:** Lou Ann Miller

**Research Field of Interest and Experience:**

- Biological and Soft Material Electron Microscopy Techniques (Including Negative Stain, Light and Electron Microscopy with epoxies and methacrylates, some cryo work)
- Sample Preparation specialized for each sample. Including free cells as well as solid material.
- Morphology - finding new structures and functions in unique samples
- Morphology - changes under research conditions
- Experience and trainer for DLS and Zetapotential work.
- Diagnostic TEM both in viral and biopsy work, for both human, mammals and aquatic specimens.

My Interests vary greatly, as I have worked a centralized service lab for both research and diagnostic work here at the University since 1988. I have seen samples from insects, aquatic samples from Shedd Aquarium, multiple Zoos, the college of Vet Med, and for many years human biopsies from local medical centers. Moving to MRL, my interests have also expanded to organelles, proteins, polymers and colloidal metals. Before coming to the University, my work did include Diagnostic Electron Microscopy and Technique Development, I have also worked with extensive experience in areas such as Clinical R & D, Special Chemistry, Hematology, Cryostat work, Microbiology prep and slide reading, Clinical Chemistry, Body Fluids, Blood Banking and worked in Histology with some experience in plastic embedding, as well as the more patient contact areas of phlebotomy and taking EKG readings.

I enjoy a variety of work, and challenges for prepping samples for Electron Microscopy, and enjoy teaching students techniques, and helping them identify morphology at the TEM.

**Responsibilities with the MRL:**

- Running the Biological & Soft Materials Service Lab
- Biological SEM Prep as well as TEM Prep
- Negative staining for virus, bacteria, protein and polymers
- Training users on the Malvern Zetasizer
- Training users on the Leica Ultramicrotome
- Scanning proposals for Biosafety
- Consultation on projects and techniques
- Set up the Fall BioConference at MRL/ Student Presentation Competitions
- Work with samples (Diagnostic and research) for other institutions, and Veterinary Clinics across the country.
- MRL Safety Committee
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Other tasks qualified to perform:

- Making of immunogold probes from scratch
- Experienced in immunogold techniques for TEM
- Makes both formvar coated grids and carbon only coated grids for use in MRL.

**Education:**

University of Illinois, Urbana-Champaign  
Non-degree Graduate Work in Electron Microscopy August 01981 - May 1982  
Bevier Hall Microscopy Center

University of Illinois Medical Center, Chicago  
B.S Medical Laboratory Sciences Sept 1977 - June 1979

University of Illinois, Urbana Champaign  
Undergraduate Work - Medical Laboratory Sciences Fall 1975 - Spring 1977

Other:

Parkland College, Champaign IL  
Associate's Degree - Computer Science: Web Design Jan 1996 - May 2001  
(Includes courses in Networking, Art, Design, programming etc)



Hess, Rex, Miller, Lou Ann, Kirby, John D., Margoliash, E., Goldberg, Erwin, Immunoelectron Microscopic Localization of Testicular and Somatic Cytochromes c in the Seminiferous Epithelium of the Rat, *Biology of Reproduction*, vol 48, 1299-1308, 1993