Beth Rhoades
Cornell NanoScale Science & Technology Facility
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Interests
The application of nanotechnologies to biology-based questions; nanomedicine, cytometry and microfluidics, self-assembling molecules and microbial structures.

Education
BA in Biology, University of Colorado
Ph.D. in Microbiology, Colorado State University
Thesis: The Immunopathogenesis of Murine Pulmonary Tuberculosis.

Professional
2008 to present Biology liaison, Cornell NanoScale Science & Technology Facility. Promote biology-driven nanoscale projects in the CNF and NNIN. Specifically provide support for biology-based users, promote educational programs in nanobiotechnology, support microfluidics, microscopy & printing processes, recruit new users from the medical community.

2006 to 2008 Sr. Research Associate, Cornell in the Dept. of Microbiology and Immunology conducting research on the inflammatory activity of mycobacterial cell walls. Experience in microbiology, immune cell biology, lipid biochemistry and flow cytometry.

2005 Associate Scientist, Lovelace Respiratory Research Inst. Albuquerque, NM. Research in mycobacterial disease and adjuvant activity. Experience in establishing new biosafety level-2 and level-3 laboratories.

2000 to 2004 Post-doc, Cornell University in the lab of David Russell establishing murine models of inflammation. Experience in animal models and immunology protocols.

1997 to 2000 Post-doc, Washington University, St. Louis, MO in the lab of David Russell studying the release of bioactive glycolipids from intracellular mycobacteria. Experience in molecular cell biology.

Recent Publications
Wang Z, Schwab U, Rhoades E, Chess PR, Russell DG, Notter RH. 2007. Peripheral cell wall lipids of *Mycobacterium tuberculosis* are inhibitory to surfactant function. Tuberculosis Dec 20 Epub.

Mwandumba HC, Squire SB, White SA, Nyirenda MH, Zijlstra EE, Molyneux ME, Russell DG, Rhoades ER. 2007. Alveolar macrophages from HIV-infected patients with pulmonary tuberculosis retain the capacity to respond to stimulation by LPS. Microbes Infect. 9:1053-60.

Hsu FF, Turk J, Owens RM, Rhoades ER, Russell DG. 2007. Structural characterization of phosphatidyl-myo-inositol mannosides from *Mycobacterium bovis* Bacillus Calmette Gúerin by multiple-stage quadrupole ion-trap mass spectrometry with electrospray ionization. II. Monoacyl- and diacyl-PIMs. J Am Soc Mass Spectrom. 18:479-92.

Howard ST, Rhoades E, Recht J, Pang X, Alsup A, Kolter R, Lyons CR, Byrd TF. 2006. Spontaneous reversion of *Mycobacterium abscessus* from a smooth to a rough morphotype is associated with reduced expression of glycopeptidolipid and reacquisition of an invasive phenotype. Microbiology 152:1581-90.

Geisel RE, Sakamoto K, Russell DG, Rhoades ER.2005. In vivo activity of released cell wall lipids of *Mycobacterium bovis* bacillus Calmette-Guérin is due principally to trehalose mycolates. J Immunol 174:5007-15.