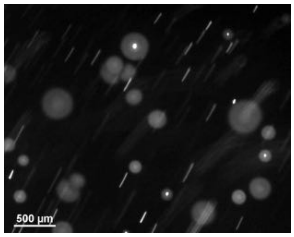
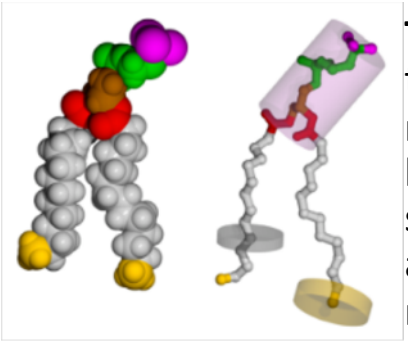
Lab Tour C (CMU)

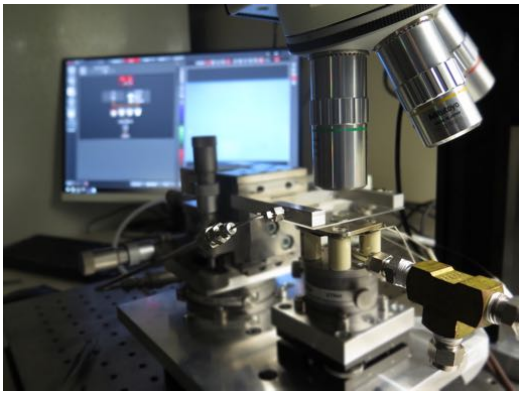
The Garoff Lab is a typical soft condensed matter physics where you can see many tools of the trade. Research in this lab focuses on interfaces between fluid and solid phases of matter.

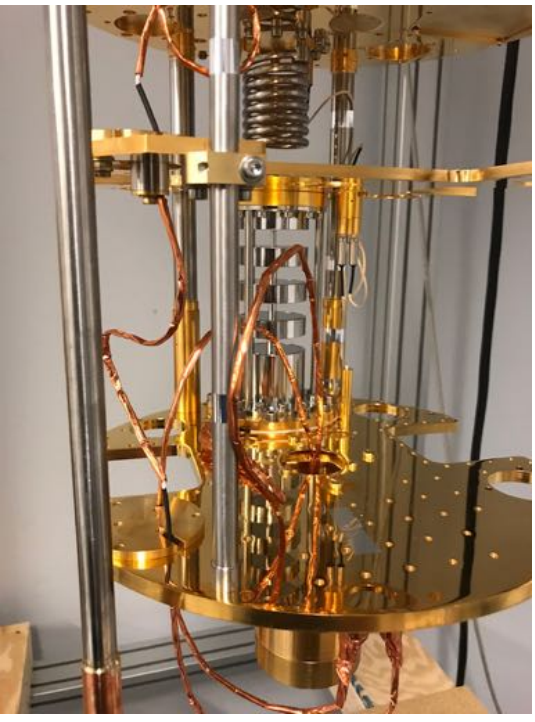




The Tristram-Nagle Lab is a biological physics lab studying the interaction of antimicrobial peptides with lipid model membranes in an effort to correlate ability of peptides to kill bacteria with biophysical results. We use x-ray diffuse scattering and circular dichroism to characterize the elastic and structural interactions of the peptides with membranes that mimic real cell membranes.

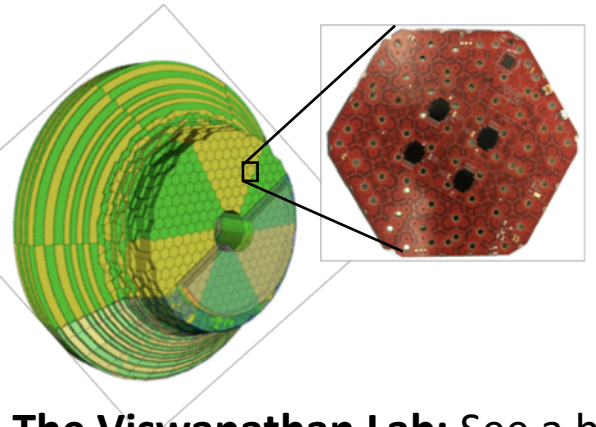
The Liquid Group Lab specializes in experimental condensed matter, specifically in thin films and 2D materials. We grow crystalline solids from raw material in our growth chamber as well as exfoliate 2D materials such as graphene. With the material, we create nano-scale electronic devices which allow us to probe their properties in hopes of pushing our understanding of quantum materials.





Hunt Lab: We do nanoscience, condensed-matter and low-temperature physics. In the lab, we make vertical stacks of 2D materials such as graphene and boron nitride (these stacks are called "van der Waals heterostructures"), then process them into devices using nanofab, and then we measure them at ultra low temperatures and high magnetic field to see all of the crazy things electrons do when subjected to the most extreme conditions we can create in the lab.

Lab Tour D (CMU)



The CMS Module Assembly Lab (Alison & Paulini) assembles and tests components for the CMS endcap detector upgrade. CMS is an experiment operating at the Large Hadron Collider (LHC) at CERN.

The Viswanathan Lab: See a battery experiment looking at designing a high-performance salt-water battery for sustainable electricity storage on the grid. The table-top experiment mixes various flavors of "salt-water" (generally more exotic than your standard sea-water), and characterizes how well they perform for use in a battery.

Materials Science Undergrad Lab: We will show demos illustrating the interface between Materials and Physics, including a new motor made of nanocomposite materials that we are building for the Department of Energy.