



San Antonio Nano Tech Forum

SANTF Networking Lunch Series

- Title:** Label Free Detection of Single Protein Molecules via Localized Surface Plasmon Resonance Sensing
- Speaker:** **Dr. Kathryn (Katie) Mayer, Ph.D.**
Assistant Professor, Department of Physics and Astronomy, UT- San Antonio
- Venue:** **UTSA Faculty Center**
4th Floor of the John Peace Library (JPL)
- Date:** **Wednesday, September 24, 2014**
- Time:** **11:30 – 12:45 PM**
Bring your own lunch or purchase in the JPL cafeteria located on 1st floor.

ABSTRACT:

Localized surface plasmon resonance (LSPR) sensing is an optical, label-free technique which exploits the principle that changes in refractive index near the surfaces of metal nanoparticles cause measurable shifts in the particles' extinction spectra. By utilizing metal nanoparticles functionalized with a capture layer, we developed sensitive and specific immunoassays based upon LSPR. An LSPR immunoassay can be carried out at the single-particle level by the use of dark-field scattering spectroscopy, revealing that it is possible to measure the spectral shift due to single molecule unbinding events. Because this technique is label-free and is able to capture phenomena over long time scales, it can provide complementary information to other single molecule methods. Long-term goals include the extension of single-molecule LSPR sensing to the study of protein conformational changes, and the combination of LSPR spectral measurements with spatial data from sub-diffraction-limited localization microscopy.

Directions to UTSA/JPL and parking: See attached map.

From 1604: Enter on campus on John Peace Blvd through Peace Circle (round-about). Then continue on Bauerle Rd. At the first stop sign you will see the Bauerle Road Garage on your right. Park and head west to the JPL Building.

From I-10/UTSA Blvd: Enter campus through the Bauerle Rd. entrance. Stay right to continue on Bauerle Rd. until you reach Bauerle Road Garage on your left. Park and head west to JPL Building.

****Please RSVP to: info@santf.net. Please check our website (www.santf.net) for complete program details and upcoming meeting schedule.**



Bauerle Road Garage paid parking here

John Peace Library



UTSA Main Campus
One UTSA Circle, San Antonio, Texas 78249