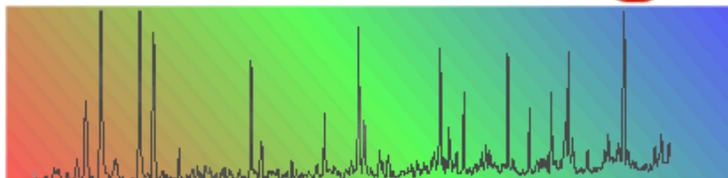




# SAS-Chicago



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## November Meeting

Tuesday, November 9, 2010

The November 2010 meeting will be held at the Holiday Inn, located at 1000 Busse Road, Elk Grove Village, IL 60007. See the map on the last page.

Social Hour: 5:30 PM

Dinner: 6:30 PM

Speaker: 7:30 PM

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## Designing Plasmonic Substrates for Ultra-sensitive Molecular Sensing

Prof. Teri W. Odom  
*Northwestern University*

To accelerate progress in label-free biological and chemical sensing, rational design must play an increasingly important role in developing *platforms* so that plasmonic materials or structures are not selected based on history or precedent but because of their optimal properties. For example, one grand challenge in plasmon-based sensing is to achieve single (bio)molecule sensitivity, but there have been only a few reports on how to tune the geometry of the metal nanostructures or their materials composition for a wide range of chemical environments. A methodical strategy to uncover the most important factors for designing molecular sensors based on plasmonic crystals is critical. This problem is significant because it is not obvious how metal substrates should be designed to achieve the highest sensitivity and selectivity, nor is it understood how different substrate materials could affect the binding kinetics of proteins.

This talk will describe a new architecture for label-free sensing: nanopyramidal lattices. This platform allows for a systematic approach to uncover the nanostructure design principles that can improve the detection of molecules as well as ligand-protein binding kinetics. For example, nanopyramidal gratings support two types of surface plasmons—propagating and localized—that can result in highly localized and concentrated electromagnetic fields as well as extended sensing volumes. Enabling features of this platform include (1) simplicity in manufacturing; (2) inexpensive, disposable substrates; and (3) large ( $> 1 \text{ in}^2$ ) nanopatterned areas.

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Please make your dinner reservations for the upcoming meeting by email at [sas.chicago1@gmail.com](mailto:sas.chicago1@gmail.com), using our online form <<http://www.sas-chicago.org/Online%20Registration%20at%20Elk%20Grove%20Holiday%20Inn%20.htm>> or by calling Slav Stepanovich at 847-421-2056. Leave **your name, company affiliation, a telephone number, the number of reservations and your choice of entree**. Please call by **noon Friday, November 5th**, so that proper arrangements can be made with the restaurant. Credit card payments must be made online at <[sas-chicago.bbnw.org](http://sas-chicago.bbnw.org)> prior to the meeting. Only payment by cash and check will be accepted at the meeting. Contact us if you can't attend; the SAS is charged for no-shows.

**Entree choices: London Broil, Chicken Marsala, or Pasta Primavera**

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Dinner Cost Members: \$30

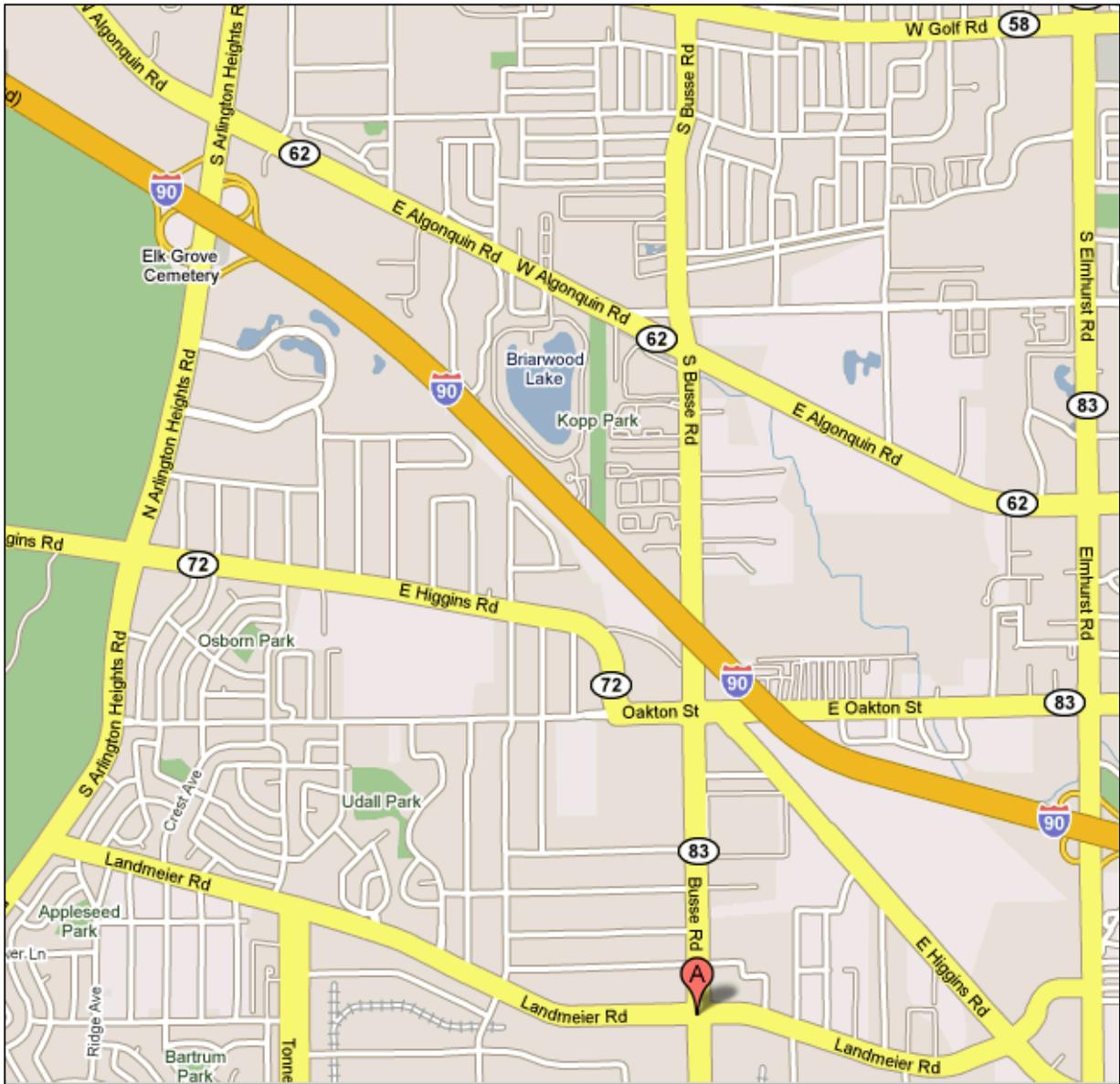
Students and Unemployed Members: \$10

Non-members: \$35

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**Elk Grove Holiday Inn, 1000 Busse Road, Elk Grove Village, IL, Phone 847-437-6010**



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