PENNSTATE

THE MATERIALS AND DEVICES AREA SEMINAR

(EE 500 GRADUATE COLLOQUIUM)

Fall 2009

You are cordially invited to

The Materials and Devices Area Seminar

Entitled

"Graphane, carbon monofuoride and the chemical functionalization of graphene"

By

Prof. Jorge O. Sofo

Department of Physics &
Department of Material Science and Engineering
Penn State University Park Campus

The talk will take place on

Nov 5, 2009
4:00 pm

At

225 EE West Building

Talk Abstract:

It has been demonstrate beyond any doubt that graphene, a single plane of carbon atoms in the honeycomb lattice, has excellent and fascinating electronic properties including a very high mobility almost independent of doping, quantum Hall effect at room temperature, and magnetism. In order to harness this potential into devices and electronic applications, we need to find a way to confine charge carriers in graphene. We will review on possibility of confinement based on the chemical functionalization of graphene with hydrogen or fluorine. We will show that this functionalization opens the way to study much more than simple graphene devices. The functionalize structures show a full set of interesting properties such as Kondo phenomena, variable range hopping, and anisotropic magnetism.

Speaker's Bio:

Associate Professor of Physics
Associate Professor of Materials Science and Engineering
Director of the Materials Simulation Center, MRI