



College of  
Science  
Department of Physics  
& Astronomy

202 Nicholson Hall  
Louisiana State University  
Baton Rouge, LA 70803  
TEL: 225-578-2261  
FAX: 225-578-5855  
<http://www.phys.lsu.edu>

## Weekly Calendar

November 16 - 20, 2015

### Departmental Colloquium:

#### **"Walter Kohn and the Creation of Density Functional Theory"**

**3:30 PM Thursday, November 19, 2015**

**109 Nicholson Hall**

***Andy Zangwill***  
Georgia Tech

HOST: Ward Plummer

• Refreshments served at 3:10 PM in 232 (Library) Nicholson Hall •

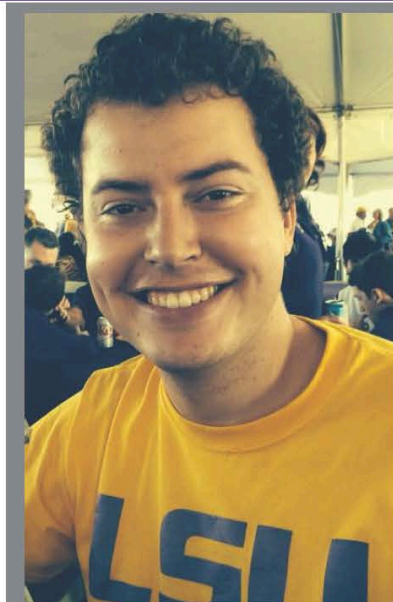
The theoretical physicist Walter Kohn was awarded one-half the 1998 Nobel Prize for Chemistry for his mid-1960's creation of an approach to the many-electron problem in quantum mechanics called density functional theory (DFT). DFT establishes that the ground state charge density provides a complete description of ALL the properties of any atom, molecule, or solid. This was a breakthrough (both conceptually and computationally) because it had been presumed previously that the vastly more complicated many-electron wave function was essential for this purpose. In this talk, I present a biographical sketch of Kohn focusing on his highly unusual educational experiences and the events in his professional career which led him to create DFT. A coda explains how the chemists came to award "their" Nobel prize to a card-carrying physicist.

# *What I Did with My Physics Degree*

## **LSU Alumni share their experience as Petrophysicists**



**Wednesday  
Nov. 18  
5:30 p.m.  
Room 119  
Nicholson Hall  
Join us with  
**FREE PIZZA****



**Christopher E. Welch**  
**B.S., Physics, 2005**  
**M.S., Medical and Health Physics, 2008**

As an undergraduate at LSU, Christopher worked in the high energy physics lab under Dr. Mike Cherry.

In 2009, he moved to Houston, providing physics support to the St. Luke's Episcopal Hospital radiation therapy department.

2012, Shell Oil Co. approached Christopher to make a career change. He is currently a Petrophysicist supporting the company's onshore Unconventional assets in Latin America. It is a role which he finds to be deeply fulfilling due to the unique challenges, technology, and opportunities.

**Lawrence McCune**  
**B.S., Petroleum Engineering, 2010**

2010, Exxon Mobil, Artificial Lift Engineer for United States land assets. While in that roll, Lawrence was able to try and test new technologies in difficult environments in order to make previously uneconomic fields economically viable.

2012, joined Shell New Orleans as a Petrophysicist for their Deep Water Gulf of Mexico assets.

Lawrence works along Engineers, Geophysicists, Geologists and Physicists to determine the downhole rock properties of the petroleum reservoirs using nuclear tools.

**LSU**

**College of  
Science**

**Department of Physics  
& Astronomy**

**SPONSORED BY:**

