



## **Physics Colloquium**

Friday, March 25, 2011, 4:00 pm, **PS 1072**

**Kyle Hackett**

*Department of Physics  
St. Francis Xavier University*

### *Density Functional Theory: Corrections to the kinetic energy density functional in two dimensions*

We investigate the gradient corrections on the kinetic energy functional of a Fermi gas in two dimensions at finite temperature. The motivation is to obtain a non-zero von Weizsacker gradient correction. The framework behind density functional theory is introduced and requisites for a semi-classical expansion modeling the behavior of the kinetic energy functional are outlined.