

# Physics Seminar

Wednesday 11/15/2006, 4:30pm  
Willet Science Center 101



## **Pebble Bed Nuclear Reactor Technology**

**A talk by Mercer physics student Thomas Legare**

With the rapid depletion of fossil fuels, the search for new energy sources grows in importance. Although nuclear power is proven to be more efficient than coal or gas and nuclear fuels are relatively abundant, conventional nuclear power suffers from a questionable safety record. The search for new, safer ways of harnessing nuclear power has led to many different designs of the conventional nuclear reactor. One of these new designs is the pebble bed reactor, which uses pebble shaped fuel spheres to exploit the physics of Doppler Broadening for safety purposes. Although this technology has not yet proliferated to all the nuclear powers of the world, we currently stand at a point in time where pebble beds may become the world's next most common reactor design. This talk will detail the specific differences between pebble bed and a conventional reactor, including what makes them supposedly safer, and some of the difficulties faced with this technology.

*Please join us for light refreshments  
at 4:15pm outside WSC 109.*