



# Physics Seminar

**Friday, 3:30 pm March 25, 2011**

## **Slipsticks, Slidrulers, and Calculating before Calculators**

*Dr. Courtney Willis*

“Philosophy is written in that great book which ever lies before our eyes ... We cannot understand it if we do not first learn the language and grasp the symbols in which it is written. The book is written in the mathematical language.” Galileo

For the last four hundred years mathematics have been fundamental to the physical sciences. Therefore the need to perform calculations has become a necessary part of the fundamental education and practice of all physical scientists. Because of the need for these calculations, a number of branches of mathematics have been developed. This seminar will give a short overlook of the development of mathematics that eventually lead to the invention of the slide rule which was the chief calculating instrument before the advent of the electronic calculator. It will end with a short tutorial on how to use the slide rule.

## **Mind Controlled Artificial Arms**

*Sean McMillon*

The University of John Hopkins applied physics lab in conjunction with The Defense Advanced Research Projects Agency (DARPA) have been developing an artificial arm that will be controlled directly from the brain using microelectric injections and sensors. This new technology will allow amputees the ability to have a natural control over an artificial limb that includes better movement, control, and even a sense of feel. The overall goal of this research is to develop a biomechanic limb that will essentially have the effect and ability of a real limb. This groundbreaking research is leading to a new era of biophysics and an interesting future for further studies incorporating these two scientific fields.

**Location: Ross 0220 (Ground level of Ross Hall)**

**(Refreshments will be served at 3:20pm.)**