

**Undergraduate Math Club  
Fall 2005  
2<sup>nd</sup> floor Nesbitt Common Room  
Dec. 1, 4:10-5:00pm  
(free pizza and pop, as always)**

**Elliptic curves, taxis, and  
Internet security**

**Professor M. DeLong**

**Abstract**

Elliptic curves are beautiful mathematical objects that have connections to many areas of mathematics and applications as diverse as string theory and internet security. In this talk, we will learn what an elliptic curve is and why it is 'elliptic'. We will see how a simple geometric construction yields the interesting and useful arithmetic structure on elliptic curves. Finally, we will see some of the applications of elliptic curves, including their role in the proof of Fermat's Last Theorem.