

SOCIETY OF PHYSICS STUDENTS (SPS) COLLOQUIUM

# The Theory and Practice of Rainbows

Jessica Schwan

Abstract:

Everyone thinks that they know how rainbows work. As a part of the course PHY 493: Advanced Topics in Physics, I elected to describe the various aspects of the natural creation of the rainbow. For such a seemingly simple topic, the rainbow is in no way a simple creation. My research proved that there are many complexities of a rainbow that are commonly misunderstood. Most of this has bearing on the relatively incorrect Ray Theory of Light, but this theory can still be used to describe the simpler aspects of the rainbow.

In this talk I will present the basic aspects of naturally occurring rainbows. Topics varying from the creation of the rainbow through refraction and reflection, the angles of the exiting rays of light, the Descartes Ray or “Rainbow Ray,” colors, and multiple rainbows will all be explained using the Ray Theory of Light. Some more complex aspects of a rainbow, such as the supernumeraries, will be explained with the Wave Theory of Light.

**WHERE**

SI – 117 (room next to the Physics Computer Lab)

**WHEN**

**11:55 am**

**Thursday, November 16, 2006**

*Pizza served before the colloquium*