

# SEMINAR IN PHYSICS

Friday, February 23, 2018  
3:30-4:25 – Ross 0220

~ Refreshments! ~

## **An Examination of Solar Contribution to Global Warming**

*Alec Bennington*  
*UNC Physics Major*

General consensus for modern greenhouse warming is derived from the link between human industrialization and increased greenhouse gas emissions. There are several outlying factors that others have cited which must be examined to determine whether they are significant contributors to this mean global temperature increase. One of these is solar activity from our nearby stellar neighbor, whose cosmic rays could be responsible for a greater amount of climate change than previously thought.

With a cursory examination of industrial based greenhouse emissions and how they interact with the general atmosphere, it is possible to determine if there are significant inconsistencies with observed temperature changes, and where cosmic rays might fit into that general picture. This determination could help refine consensus on the issue of global climate change, and channel efforts to combat it where they would most effectively be focused.

## **How Good Are the Common Approximations Used in Physics?**

*Rydell Stottlemyer*  
*UNC Physics Major*

In undergraduate physics, several approximations are used to solve or simplify a variety of physics problems. However, we rarely consider how accurate these approximations are.

We will look at three common bases for the approximations: Taylor Series, Binomial Series and Stirling's Series. We will discuss the precision and percent error of each approximation in different scenarios. In several cases, it is found that most approximations are more accurate than we think.