HAO/CISL Colloquium Series

(Refreshments served)

Speaker: **Travis Metcalfe, HAO/CISL**

Time: **10:30 am**

Date: **Wednesday, June 1, 2011**

Location: **Mesa Lab, Main Seminar Room**

Title: **First results from the TeraGrid Asteroseismic Modeling Portal**

Abstract: Asteroseismology will soon place our understanding of the Sun into a broader context by providing structural information for hundreds of solar-type stars. In the past, ground-based data on solar-like oscillations have emerged slowly enough that we could try to model one star at a time. NASA's Kepler mission is now producing asteroseismic data for hundreds of stars every few months, so a hands-on approach is a luxury we can no longer afford. We have developed a stellar model-fitting pipeline, which employs a parallel genetic algorithm to match observations from the Kepler mission. We have validated the method using Sun-as-a-star observations as well as data from a wide variety of solar-type stars. The pipeline is now available through the Asteroseismic Modeling Portal (AMP), a Science Gateway website tied to supercomputing resources on the TeraGrid. I will provide an overview of AMP and present some of the first results from its automated analysis of both ground-based and space-based asteroseismic data sets.