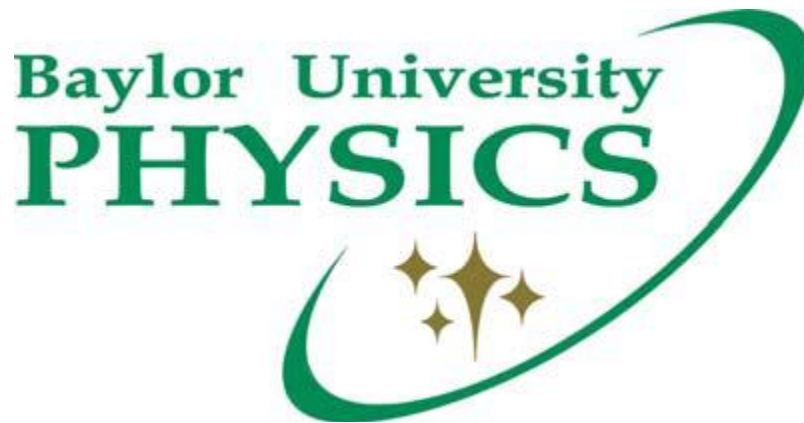




Spring 2011
High Energy Particle Physics Seminar

TIMOTHY RENNER

***“SYSTEMATIC INVESTIGATIONS OF THE FREE FERMIONIC
HETEROTIC STRING LANDSCAPE USING THE FF FRAMEWORK”***

The estimated number of consistent string theory vacua (corresponding to different force and matter content) is on the order of 10500. The collection of string-derived models is thus referred to as the "string theory landscape." A particular class of heterotic string models, called the weakly coupled free fermionic models, has produced several quasi-realistic string vacua. One aim of Baylor's Early Universe Cosmology and Strings (EUCOS) group is to systematically generate these models using two C++ frameworks: one optimized for models containing only gauge bosons, and one designed to produce matter spectra as well as gauge bosons. This talk will focus on recent results using the latter, called the FF Framework. The construction method will be detailed first, then redundancies in models with more than four large space-time dimensions will be examined. Finally, results from extensions of a set of basis vectors which commonly lead to quasi-realistic phenomenology (called the NAHE set) are discussed.

Monday, April 18, 2011
3:30 p.m.
Room A.202, Baylor Sciences Building

For More information contact: Dr. Kenichi Hatakeyama X 2286