

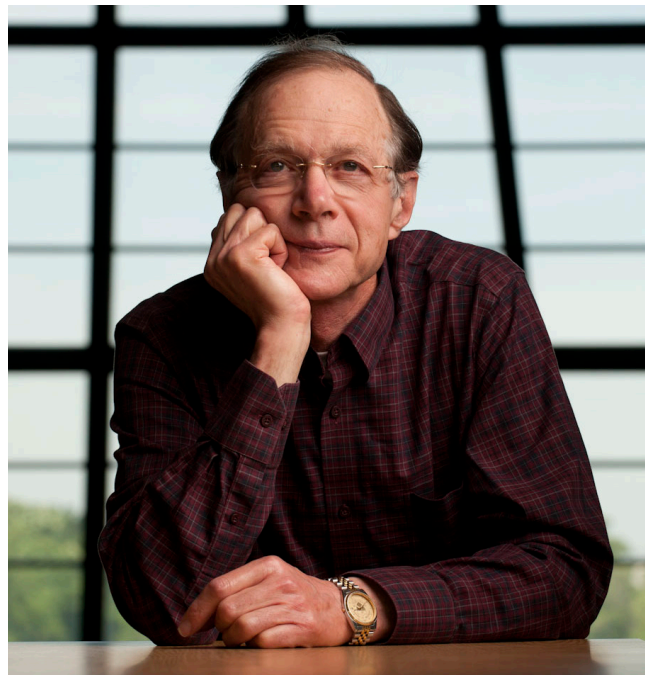
# PHYSICS AND ASTRONOMY COLLOQUIUM

## Boris Kayser, Ph.D.

Fermilab

### Are We Descended From Heavy Neutrinos?

We will introduce neutrino oscillation, and explain the physics of this quintessentially quantum-mechanical phenomenon. We will then briefly summarize what the neutrino-oscillation data have taught us about the neutrinos, and what surprises we have encountered. Finally, we will turn to the questions raised by the discovery of neutrino oscillation. We will focus on the question of whether the preponderance of matter (of which we are made) over antimatter in the universe is due, at least in part, to the early-universe decays of heavy neutrinos. We will explain why the future observation that antineutrinos oscillate differently from neutrinos would make it more likely that the answer to this question is “yes”.



THURSDAY, MAY 2, 2013 | 4:00 PM | HAWKING AUDITORIUM



**PHYSICS & ASTRONOMY**  
TEXAS A&M UNIVERSITY