Abstract:

The complex elastic structures that comprise the earth’s plate system are in strong interaction with one another. While occasionally the cause of drama (e.g., Great Sumatra earthquake 12/26/04) these interactions usually produce a set of modest signals (burp, gasp, scrunch, ...) that provide few direct clues as to what the plate system is doing.

Two of these clues, "driven tremor" and "remote triggering", are the subject of this talk. I will discuss a model and two experimental scenarios; the model will remind you of a broom; scenario 1, in the Los Angeles basin involves driven tremor; scenario 2, in University Park PA involves an earthquake machine subjected to remote triggering perturbations. The model offers the possibility of understanding some aspects of what is observed in these scenarios and of placing what is observed in the broader context of plate system dynamics.

The grand challenge is to assemble burp, gasp, scrunch, ... into a predictive tool for anticipating major events. The burp and scrunch in this talk may have something to do with that.

Friday, February 27, 2009
4:00-5:00 pm

Goudsmit Conference Room, LP 208