

A Special STEM-ED Seminar

## **Michael Marder, Ph.D.**

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### **Student Flow through STEM Education in Texas**

Dr. Marder will discuss the use of methods borrowed from statistical mechanics to analyze student test scores on the high-stakes Texas mathematics tests. These methods are used to investigate the assertion, influencing Federal funding policies, that once one knows students' test scores in one year, all other information about them can and should be discarded when trying to predict how much they will learn the next. These studies reveal how students flow through the space of score and time, that both convective and diffusive effects are at work, and that poverty has a very significant effect on the flow pattern. Other topics include students disappearance from schools, students being retained in grades, and the relative performance of regular and charter schools.

Marder and Bansal, 2009. Flow and diffusion of high-stakes test scores. PNAS, **106**:17267-70. Epub 2009 Oct 5.

**Tuesday, 17 November 2009**  
**3:30PM in Porter Bioscience B121**