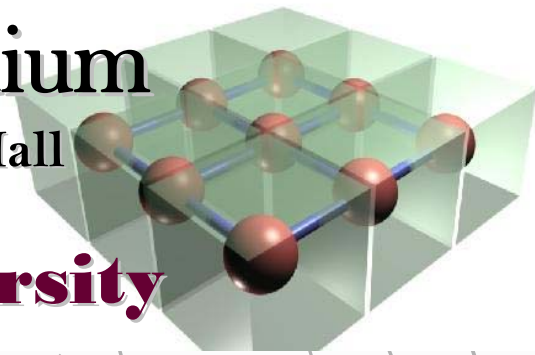


CU Physics Department Colloquium

Monday, November 9, 2009 4:10 PM 428 Pupin Hall



David Weiss, Penn State University

How does a quantum mechanical system thermalize?

I will describe experiments with atoms in optical lattices that create 1D Bose gases with effectively delta-function interactions. These are the first experimentally observed integrable many-body systems, which means among other things that they can be exactly solved and that to a first approximation they do not thermalize, as we have observed by making quantum Newton's cradles. The question we are now addressing is what happens when integrability is lifted. Does the gas thermalize, or, as in some classical systems, is there some regime of non-integrability in which the system still does not thermalize? We think we are close to a clear experimental answer, but since it's still preliminary, you'll have to come to my talk to hear it.



Hosted by Boris Altshuler - Meet the Speaker at 1:30 pm in 705 Pupin Hall