

**UIC Model Theory Seminar, February 8, 2005**  
**Representation of groups as generic automorphisms of  
Hilbert spaces**

Alex Berenstein, UIUC

We will prove that the class of generic structures among those consisting of a Hilbert space with a discrete group of automorphisms is axiomatizable by positive sentences using an approximate semantics. When the group involved is amenable we characterize the generic structures using a theorem of Hulanek about regular representations. We also discuss a model theoretic characterization of Kazhdan's groups (also known as groups satisfying property  $T$ ). All these theories give rise to stable compact abstract theories.