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**Speaker:** Krzysztof Krupinski  
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Thursday, November 6, 2014  
3:00 PM  
125 Hayes-Healy Hall

**Title:** Borel cardinalities of bounded invariant equivalence relations

**Abstract:**

Lascar strong types play an important role in model theory. The relation of having the same Lascar strong type is the finest bounded, invariant equivalence relation on a given sort (or product of sorts) of a monster model of a given theory. For a bounded, type-definable equivalence relation, its set of classes equipped with the so-called logic topology forms a compact Hausdorff topological space. However, for relations which are only invariant but not type-definable, the logic topology is not necessarily Hausdorff, so it is not so useful. The question arises how to measure the complexity of the "spaces" of classes of such relations. One of the ideas is to investigate Borel cardinalities of such relations, which was formalized in my joint paper with A. Pillay and S. Solecki. During the talk, I will give an overview of the progress which has been made so far in this direction.