



Speaker: Joseph Miller
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Thursday, February 25, 2016

3:00 PM

125 Hayes-Healy Hall

Title: Subclasses of the K -trivial degrees

Abstract:

I will talk about joint work with Greenberg and Nies on the fine structure of the class of K -trivial sets. The motivating example is the class of sets that are computable from both halves of a random sequence, which was already known to be a proper subclass of the K -trivial sets. We gave several characterizations of this class and proved that it is an ideal generated by its c.e. elements. This work generalizes to the class of sets that are computable from the join of every k out of n parts of a random sequence. We call such a set a k/n -base. Ranging over rationals k/n , we get a natural dense family of subideals of the K -trivial sets. The union of these ideals is the ideal of sets that are robustly computable from some random sequence. I will finish by describing a further generalization of k/n -bases. In general, arbitrary families of projections (along the coordinate axes) do not give us new subideals of the K -trivial sets.