Sets, ideals, and Π^0_1 classes

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L01 Carson Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

The lattice of computably enumerable (c.e.) sets is a well-studied structure in logic, in particular with regard to its automorphisms and orbits. Π^0_1 classes, most easily thought of as sets of infinite paths through computable binary-branching trees, entered the limelight more recently. In my dissertation, I constructed an isomorphism between the lattice of c.e. sets and a quotient substructure of the lattice of Π^0_1 classes which as a consequence allows us to transfer information from the c.e. sets to the Π^0_1 classes as a whole. My talk will discuss the results above in the context of c.e. substructures of computable structures and of effectively closed (that is, Π^0_1) subsets of topological spaces. No knowledge of logic will be assumed for the talk.

This talk should be accessible to graduate students.