



Speaker: Arthur Yim
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Thursday, April 25, 2013
2:00 PM
125 Hayes-Healy Hall

Title: Abelian Extensions of the Fixed Exponential Field

Abstract:

This talk explores the idea of an exponential Galois theory through Galois correspondences available in model theory. A model of the theory of pseudoexponentiation has a fixed substructure whose algebraic numbers are exactly those which are abelian and totally real (a result of Kirby, Macintyre, and Onshuus). An exponential reworking of the Kronecker–Weber theorem and Hilbert’s 12th problem is used to ask what the field–theoretic abelian extensions of this algebraic field look like, and the results from that exercise are used to find some (but not all) of the (model–theoretic) abelian extensions of the fixed exponential substructure.