Department of Mathematics
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LOGIC SEMINAR

Guest Speaker: Dino Rossegger
University of Waterloo

Date: Tuesday, October 15, 2019
Time: 2:00 PM
Location: 125 Hayes-Healy Hall

Lecture Title:
Degree spectra and analytic equivalence relations

Abstract

The degree spectrum of a countable structure is the set of Turing degrees of its isomorphic copies. It is widely considered to be the best measure of algorithmic complexity of a structure and has seen a lot of attention of researchers in the last decades. Recently, researchers started studying the families of degrees of structures equivalent under equivalence relations other than isomorphism. One of the goals in this line of research is the comparison of families of degrees realized by common equivalence relations on structures such as isomorphism, elementary equivalence or bi-embeddability. In this talk we will give an overview of this field and present recent advancements in a project which aims to understand why some equivalence relations realize certain families of degrees while others do not. One of the new results we present in this talk is that the quasi-order induced by elementary embeddabilty on the class of graphs is analytic complete. This provides some insight on why we are having difficulties finding families of degrees that separate bi-embeddability, elementary bi-embeddability and isomorphism.