Department of Mathematics
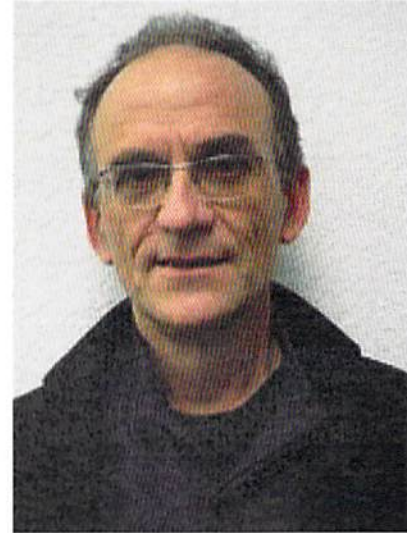## University of Notre Dame

LOGIC SEMINAR

Guest Speaker: Kobi Peterzil
University of Haifa

Date: Tuesday, January 31, 2017
Time: 2:00 PM
Location: 125 Hayes-Healy Hall

Lecture Title:
The closure of algebraic and o-minimal flows (joint work with Sergei Starchenko)

Abstract

The success of model theory in attacking problems in Diophantine geometry has given rise to related questions in similar settings. Recent work by Ullmo and Yafaev considers the uniformizing map $p : V \to A$ from a complex n-space onto an n-dimensional complex abelian variety (as usual, A can be identified with the quotient of V by a lattice). They then take a subset X of V which is either algebraic or more generally definable in an o-minimal structure, and consider both the Zariski closure and the topological closure of $p(X)$ in A. In a project which is still in progress, we apply model theoretic machinery in order to understand these two types of closures. Our goal is to give new proofs to some known results (e.g. the Ax-Lindemman theorem), and also to gain a new insight into conjectures of Ullmo-Yafaev about these closures, which I will recall in the talk.