

LOGIC SEMINAR

Guest Speaker: Thomas Scanlon
University of California at Berkeley

Date: Tuesday, June 30, 2020

Time: 11:00 AM

Location: See Zoom Link Below Title



Lecture Title:

A complicated, but stable, structure interpretable in $\mathbb{C}(t)$

Abstract

Thanases Pheidas has noted (while attributing this observation to an anonymous grant reviewer) that the induced structure on C in $\mathbb{C}(t)$ goes well beyond the field structure alone. For example, the set of j -invariants of elliptic curves with complex multiplication is (existentially) definable. Pheidas has suggested that undecidability of the theory of $\mathbb{C}(t)$ should follow from the existence of these complicated definable sets. I will explain how this additional structure arises and will then show that, contrary to what had been expected, effective versions of the André-Oort and Zilber-Pink conjectures imply that the expansion of the complex numbers by these definable sets is decidable. In fact, even without assuming effectivity in André-Oort and Zilber-Pink, we can show that these structures are stable.