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Logic@TXST Faculty Seminar

Applications of model theory to functional transcendence

LOGIC

Speaker:

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University of Illinois-Chicago

When: 3:30pm-4:30pm

November 18

Where: DERR 329

Abstract

Over the last decades there has been a surge in interest around functional transcendence results, in part due to their connection with special points conjectures in number theory. The approaches to proving those results employ various techniques from group theory, complex variables, and number theory, but each one also shares a common element: a tool called o-minimality originating in model theory.

In this talk I will discuss how an entirely new approach, centered around the model theory of differential fields, has been successfully used to tackle several open problems in functional transcendence theory. The talk will focus on recent progress around the Ax-Lindemann-Weierstrass and Ax-Schanuel Theorems for uniformizers of geometric structures.

This talk is part of the Logic@TXST series. For more information (meetings with the speaker, future talks, paid RA opportunities, etc.) visit `https://logictxst.wp.txstate.edu/home/` or email the organizer, Will Boney (wb1011@txstate.edu).