



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Algebraic Geometry and Representation Theory Seminar

on Wednesday, Nov 25, 2020  
at 16:30

[HTTPS://WEIZMANN.ZOOM.US/J/98304397425](https://weizmann.zoom.us/j/98304397425)

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: Equations in arithmetic groups and Model Theory

Abstract:

I'll talk about a new dichotomy between arithmetic groups of rank one and arithmetic groups of rank bigger than one. Namely, whereas the category of definable sets in free groups or surface groups is simple, the category of definable sets in many higher rank arithmetic groups is as bad as it gets---it is equivalent to the category of definable sets over the natural numbers. One consequence of this phenomenon is that if  $G$  is such a higher rank arithmetic group, then there is an axiom---a first order statement---that holds for  $G$  but doesn't hold for any other finitely generated group.

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