

Colloquium

University of Notre Dame
Department of Mathematics

Uri Bader - Weizmann Institute of Science

Speaker: Uri Bader

Weizmann Institute of Science

Will give a lecture entitled

Cohomology of Arithmetic Groups, Higher Property T
and Spectral Gap

Date: Monday, February 5, 2024

Time: 4:00 PM

Location: 129 Hayes-Healy Bldg



Departmental Tea: Tea in Room 257 (lounge in Hurley Hall) at 3:30 p.m.

Zoom URL: [notredame.zoom.us/j/94209026501?](https://notredame.zoom.us/j/94209026501?pwd=d0hDdmRua0JETFV6MkpPSWFJZkZDQT09)
pwd=d0hDdmRua0JETFV6MkpPSWFJZkZDQT09.
Meeting ID: 942 0902 6501 Passcode: 596816



Abstract:

Groups of matrices with integer entries, aka arithmetic groups, are prominent objects of mathematics. From a geometric point of view, they appear as the fundamental groups of locally symmetric space. Topological invariants of such spaces could be seen as group invariants and vice versa. In my talk I will relate this useful link between topology and arithmetics with the theory of unitary representations. More precisely, I will focus on the cohomology of arithmetic groups with unitary coefficients, presenting a recent joint work with Roman Sauer which completely clarifies the theory in small degrees. By the end of the talk I will discuss the relation of the above with the phenomenon of spectral gap and state various related conjectures. I will make an effort to present the subject to a general audience.