Department of Mathematics
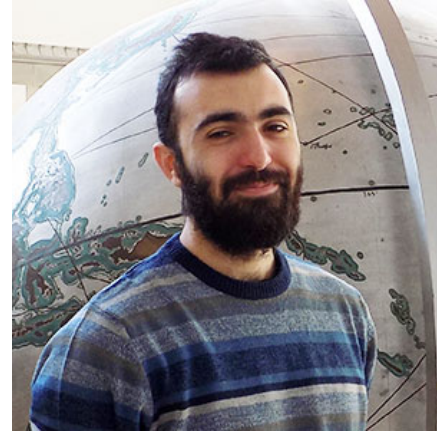## University of Notre Dame

GRADUATE STUDENT SEMINAR

Guest Speaker: Lorenzo Riva
University of Notre Dame

Date: Tuesday, April 30, 2024
Time: 4:00 PM
Location: 258 Hurley Bldg
Zoom URL: NA

Lecture Title:
The Why, What, and How of higher categories

Abstract

One fundamental technique in mathematics is the process that we all know as "abstraction" but that in some cases goes by the name "categorification": we take some theorem/calculation/construction X and we realize it as the shadow of a more complicated thing Y in a way that makes the concept X more natural, or its construction more elucidating, or its applications more useful in other areas of math. In this talk we will use the homotopy theory of topological spaces and categorify it to obtain a flavor of categorical objects called higher categories, an extension of ordinary categories. This will be an expository talk and no previous knowledge of homotopy theory (besides some basic topology and algebra) will be assumed.

Lorenzo Riva - University of Notre Dame