



The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University



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*Polytopes, Triangulations, and
Lattice-Point Enumeration*

WED APR 20, 2022, VIA ZOOM

Abstract: When extracting combinatorial information from geometric objects, a natural approach is to subdivide the combinatorial object into smaller, more accessible pieces. In the case of polytopes, i.e., the convex hull of finitely many points, a natural approach is to triangulate the polytope into simplices. The Ehrhart quasipolynomial of a rational polytope P encodes the number of integer lattice points in dilates of P , and the h^* -polynomial of P is the numerator of the accompanying generating function. In this talk I will present background on triangulations and their connections to the study of polytopes and their lattice-point enumeration.

Background: No prior knowledge assumed; it might be helpful to have an idea of what a generating function is.

About the speaker: Andrés R. Vindas Meléndez received his PhD from U. Kentucky, under the advising of Benjamin Braun, and his master's degree from San Francisco State, under the advising of Federico Ardila and Matthias Beck. Andrés is currently an NSF Postdoc in the Department of Mathematics at UC Berkeley and concurrently a postdoc fellow at the Mathematical Sciences Research Institute.

COLLOQUIUM BROADCAST VIA ZOOM, 3:00PM PACIFIC
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For our full schedule, see: <http://www.timhsu.net/colloq/>