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

Kassahun Betre

SJSU

Counting and Sampling Pure Simplicial and Clique Complexes
Wed May 08, 2024, MH320

Abstract: Simplicial complexes have wide ranging applications in algebraic topology and geometry. Random pure simplicial complexes are useful models for stochastic geometry and topology with possible applications in quantum gravity. But they are also inherently interesting. In this talk we discuss how to count pure simplicial and clique complexes with fixed number of facets (maximal faces). We also discuss the probability space of random pure simplicial complexes and take a look at some combinatorial and topological properties of a typical pure complex.

Background: One semester abstract algebra.

About the speaker: Kassahun Betre is an asst. prof. in the Dept. of Physics and Astronomy at SJSU. He received his Ph.D. from Stanford Univ. in theoretical physics. His research interest is in emergent quantum gravity, an area of physics that attempts to build spacetime from combinatorial building blocks.

Snacks in MacQuarrie Hall 331B at 2:40pm
Talk starts at 3:00pm

For more information, see our full schedule at:

`http://www.timhsu.net/colloq/`