



The rising STAR of Texas

Discrete Mathematics Seminar

Time: Friday, Oct 23, 2020, 2:15-3:15 PM
Title: A Higher-Dimensional Sandpile Map
Speaker: Alex McDonough, Brown University
Zoom Link: <https://txstate.zoom.us/j/95566530916?pwd=OGI4NINJN1U0UUIROU9ML1MxUjdmZz09>
ID: 955 6653 0916
Passcode: **753321**

Abstract:

Traditionally, the sandpile group is defined on a graph and the Matrix-Tree Theorem says that this group's size is equal to the number of spanning trees. An extension of the Matrix-Tree Theorem gives a relationship between the sandpile group and bases of an arithmetic matroid. I provide a family of combinatorially meaningful maps between these two sets. This generalizes a bijection given by Backman, Baker, and Yuen and extends work by Duval, Klivans, and Martin. I will not assume any background beyond undergraduate linear algebra.