

# VCU Discrete Mathematics Seminar

## *Impartial Achievement Games on Convex Geometries*

**Prof Nandor Sieben**  
**Northern Arizona University**

Wednesday, April 28  
1:00-1:50

Zoom! @ <https://vcu.zoom.us/j/92975799914>  
password=graphs2357



**Abstract:** We study a game where two players take turns selecting points of a convex geometry until the convex closure of the jointly selected points contains all the points of a given winning set. The winner of the game is the last player able to move. We develop a structure theory for these games and use it to determine the nim number for several classes of convex geometries, including one-dimensional affine geometries, vertex geometries of trees, and games with a winning set consisting of extreme points.

For the DM seminar schedule, see:

<https://www.people.vcu.edu/~nobushaw/dms.html>