VCU Discrete Mathematics Seminar
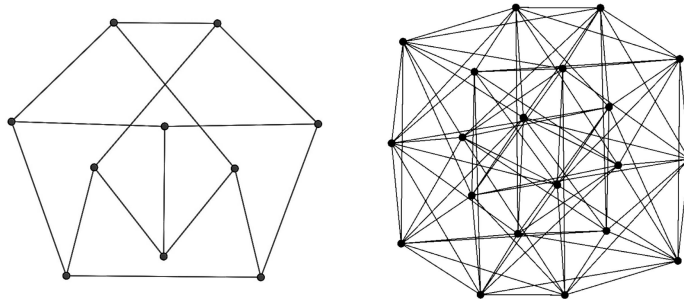
The Pebbling Number
of Some Generalized Johnson Graphs

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(VCU!)

Wednesday, Nov. 19
1:00-1:50 EST

In person in 4145 Harris Hall. And a Zoom option:

`https://vcu.zoom.us/j/81475528886`
`password=graphs2357`

Graph pebbling is a combinatorial game played on a graph that serves as both a network model for supply and demand and network flow problems. At its core, graph pebbling studies the movement of discrete resources—represented as pebbles—across a graph, subject to specific rules. The origins of graph pebbling can be traced back to number theory, particularly through its connections to zero-sum sequences. However, applications of this game have spanned across many other areas of mathematics.

This talk will be centered around graph pebbling on generalized Johnson graphs, as well as some results and conjectures. The generalized Johnson graph or $J(m, k, i)$ has the vertex set of subsets of size k from a set of m elements, where an edge exists between two vertices if their intersection has size i. Johnson graphs have found applications in combinatorial geometry, Ramsey theory, and other branches of combinatorial theory. Finding properties of graph pebbling on this class of graphs may provide opportunity for further results in broader combinatorial theory.

For the DM seminar schedule, see:

`https://go.vcu.edu/discrete`