

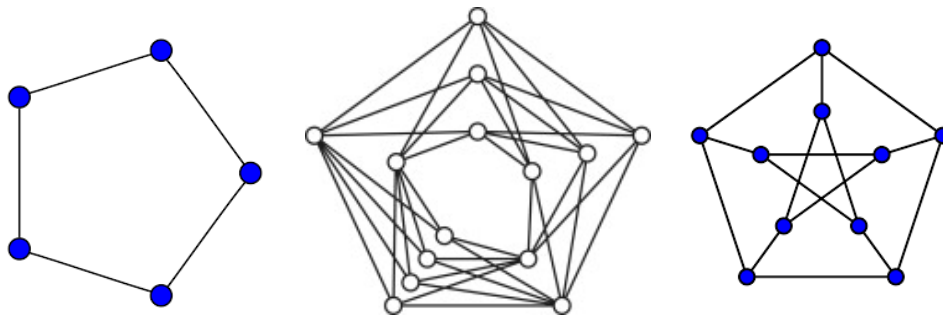
VCU Discrete Mathematics Seminar

A New Conjecture About Diameter-2-Critical Graphs

Joshua Forkin
VCU!

Wednesday, Feb. 2
1:00-1:50

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



A diameter-2-critical (D2C) graph is a diameter 2 graph, where removing any edge from the graph increases its diameter. Much of the research done on D2C graphs has been centered on proving the 'Murty-Simon Conjecture', which states that every D2C graph contains at most $\lfloor \frac{n^2}{4} \rfloor$ edges.

Almost all graphs have diameter 2; results about their D2C subgraphs may be a useful tool for investigating the structure of these graphs. Larson & Van Cleemput's CONJECTURING program conjectured that the maximum size of an independent set is greater than or equal to the minimum degree for all D2C graphs. In this talk, we discuss our attempts and progress at proving (or disproving) this new conjecture, as well as its relationship with the Murty-Simon Conjecture.

For the DM seminar schedule, see:

<https://go.vcu.edu/discrete>