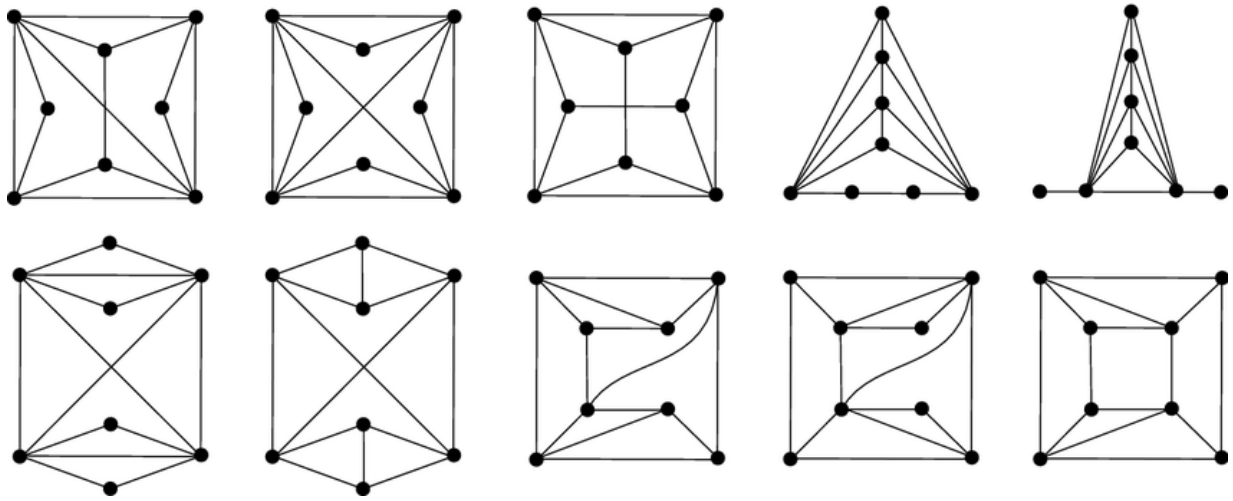
VCU Graph Theory
Computational Discovery Lab

Connected Graphs
with Connected Complements!

Summer 2024

2106 Harris Hall
May 13—May 24
MTWThF, 10:00-1:00



A graph is **connected** if there is a path from each vertex to every other. The **complement** of a graph G with vertices $V(G)$ is the graph $\bar{G}$ with vertices $V(G)$ and an edge between vertices v, w if and only if there is no edge between them in G.

Which connected graphs have connected complements?

What classes have this property? What properties do they have? What can we prove about them? They can be used to represent directed graphs—what is special about these graphs? We **can** hope to prove some theorems—and to better understand this attractive problem.

We will start with little pre-existing knowledge—and **explore**! **All are welcome**. Python programming experience would be useful. **Enthusiasm is necessary**. We will use Sage and an automated conjecturing program as part of this research. For more information, please **contact**:

Neal Bushaw (`nobushaw@vcu.edu`), or **Craig Larson** (`clarson@vcu.edu`).

VCU Mathematics