

# VCU Discrete Mathematics Seminar

## *Graph Theory as Lie Theory*

**Prof Marco Aldi**  
**(VCU!)**

Wednesday, Feb. 8  
1:00-1:50 EST

**In person!**—in 4145 Harris Hall  
(and on Zoom @ <https://vcu.zoom.us/j/92975799914>  
password=graphs2357



The goal of this talk is to present a dictionary between graph theory and Lie theory. In its simplest form, this construction (due to Dani and Mainkar) assigns to each simple graph a Lie algebra. After discussing Lie-theoretic counterparts of familiar graph-theoretic notions, we focus on certain invariants of graphs naturally attached to the associated Lie algebra. We conclude with an overview of some recent joint work with Sam Bevins in which we generalize the above to hypergraphs.

For the DM seminar schedule, see:

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