

# VCU Discrete Mathematics Seminar

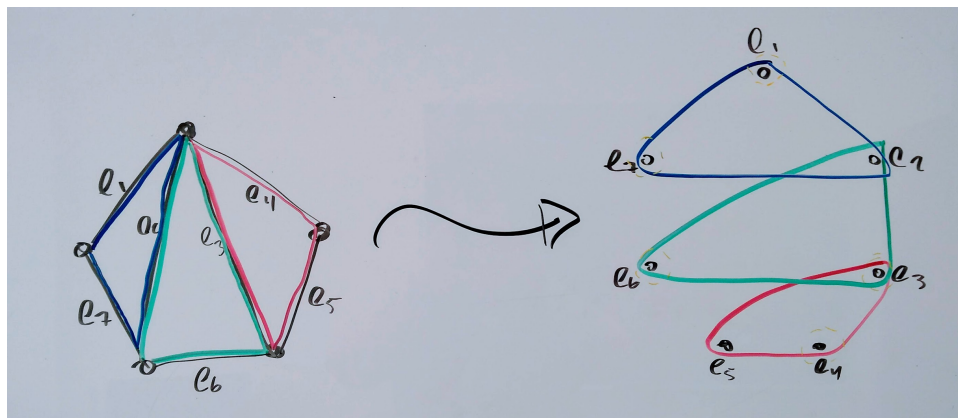
## *Hypergraph Containers* *Or, How I Learned to Stop Worrying and* *Love Independent Sets*

**Prof Neal Bushaw, VCU**

Wednesday, Sept. 5

1:00-1:50

4145 Harris Hall



Independent sets in hypergraphs are well studied on their own. However, recent interest has increased as it has become clear that a wide variety of problems in graph theory, combinatorics, and additive number theory can be encoded natural as a statement about independent sets in hypergraphs.

Recently, the 'hypergraph containers' of Conlon-Gowers, Balogh-Morris-Samotij, and Saxton-Thomason have provided a unified framework for studying these independent sets – and have provided a powerful new tool for these encoded problems. In this talk, we give a brief introduction to hypergraph containers, focusing on a single application worked in detail. In addition, if time allows, we'll give a brief overview of the immense body of problems which have been cracked using containers in the past five years.

The majority of this talk will not be my own work – although several of my papers make use of hypergraph containers in crucial ways, I won't talk about them here. No prior background is expected; I'll build things from the ground up (and wave my hands a bit...)

For the DM seminar schedule, see:

<http://www.people.vcu.edu/~dcranston/DM-seminar>