

# VCU Discrete Mathematics Seminar

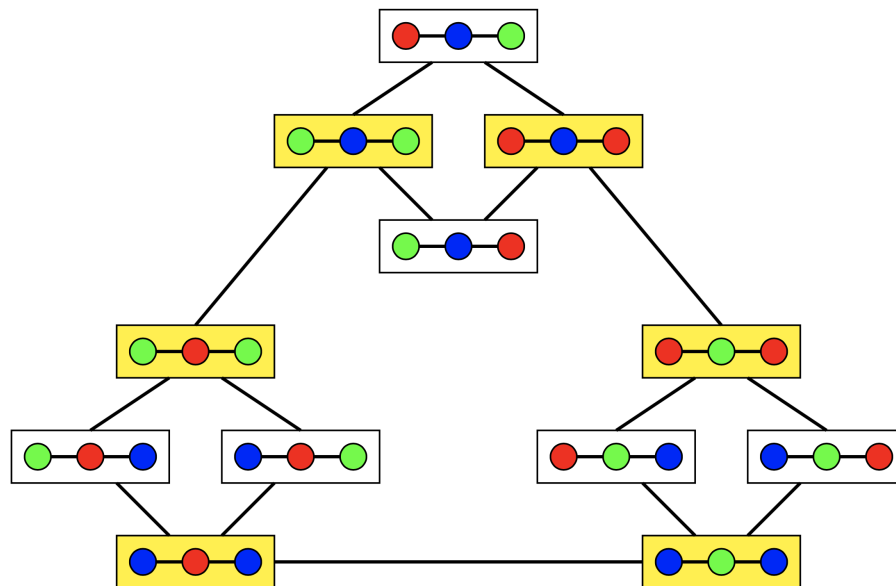
## *Coloring reconfiguration and cut-colorings*

**Prof Heather Russell,  
University of Richmond**

Wednesday, Oct. 3

1:00-1:50

4145 Harris Hall



Given a graph  $G$  and natural number  $k$ , we are interested in exploring the structure of the set of proper vertex  $k$ -colorings of  $G$ . To do this, we construct the  $k$ -coloring graph of  $G$ . This “meta-graph” has vertex set given by the proper  $k$ -colorings of  $G$  with edges connecting colorings related by recoloring a single vertex of  $G$ . This is an example of a reconfiguration problem. One of the most basic questions in such a problem is that of connectivity. We will discuss some results related to connectivity of coloring graphs as well as our recent exploration of biconnectivity. This is joint work with Prateek Bhakta, Brett Buckner, Lauren Farquhar, Vikram Kamat, and Sara Krehbiel.

For the DM seminar schedule, see:

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