

## **Role coloring graphs in hereditary classes**

Christopher Purcell, Puck Rombach\* (University of Vermont)

We study the computational complexity of computing role colorings (for example, coupon colorings), of graphs in hereditary classes: classes that are closed under taking induced subgraphs. We are interested in describing the family of hereditary classes on which a role coloring with  $k$  colors can be computed in polynomial time. In particular, we wish to describe the boundary between the “hard” and “easy” classes.

Keywords: graph theory, coloring, computational complexity