1116-13-212 **Jennifer Biermann*** (jbierman@mtholyoke.edu), **Christopher A. Francisco**, **Huy Tài Hà** and **Adam Van Tuyl**. *Partial coloring, vertex decomposability, and sequentially Cohen-Macaulay simplicial complexes.*

In attempting to understand how combinatorial modifications alter algebraic properties of monomial ideals, several authors have investigated the process of adding "whiskers" to graphs. We study a similar construction to build a simplicial complex Δ_χ from a coloring χ of a subset of the vertices of Δ, and give necessary and sufficient conditions for this construction to produce vertex decomposable simplicial complexes. Using combinatorial topology, we strengthen and give new proofs for results of the second and third authors about sequentially Cohen-Macaulay edge ideals that were originally proved using algebraic techniques. (Received August 14, 2015)