Kai Fong Ernest Chong* (kc343@cornell.edu), Department of Mathematics, 310 Malott Hall, Cornell University, Ithaca, NY 14853. A numerical characterization of the flag $f$-vectors of completely balanced Cohen-Macaulay complexes.

In this talk, we introduce the notion of Macaulay decomposability for simplicial complexes, and we describe its role in generalizing Macaulay representations. Using these generalized Macaulay representations, we give a numerical characterization of the flag $f$-vectors of completely balanced Cohen-Macaulay complexes. Our main emphasis will be on explaining the geometric interpretation and combinatorial ideas underlying this numerical characterization. (Received December 05, 2013)