1154-05-635 **Justin M. Troyka*** (jmtroyka@yorku.ca). *Split graphs: Combinatorial species and asymptotics.*

A *split graph* is a graph whose vertices can be partitioned into a clique (complete graph) and a stable set (independent set). How many split graphs on n vertices are there? Approximately how many are there, as n goes to infinity? Collins and Trenk (2018) have worked on these questions, and in this talk I give a generalization of their results in the setting of species theory, a powerful framework for counting combinatorial objects acted on by isomorphisms. This generalization leads to a result relating split graphs and bicolored graphs, allowing me to prove the conjecture of Cheng, Collins, and Trenk (2016) that almost all split graphs are "balanced". The proof makes use of an asymptotic result about bicolored graphs: namely, that the number of unlabeled bicolored graphs is asymptotically the number of labeled ones divided by $n!$. (Received September 09, 2019)