1145-92-1842 **Christine Heitsch*** (heitsch@math.gatech.edu). *Spaces of RNA branching configurations.*

Understanding the folding of RNA sequences into three-dimensional structures is one of the fundamental challenges in molecular biology. For example, the branching of an RNA secondary structure is an important molecular characteristic yet difficult to predict correctly, especially for sequences on the scale of viral genomes like Influenza, Hepatitis C, and HIV. However, as we will show, results from enumerative, probabilistic, and geometric combinatorics characterize different types of branching landscapes. These theorems yield insights into RNA structure formation, and suggest new directions in viral capsid assembly. (Received September 24, 2018)