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SIDDARTH KANNAN, Shiyue Li* (shiyue_li@brown.edu), **Claudia Yun** and **Stefano Serpente**. *Topology of tropical moduli spaces of weighted stable curves in higher genus.*

Tropical moduli spaces of weighted stable curves are moduli spaces of metric weighted marked graphs satisfying certain stability conditions. The space of tropical weighted curves of genus g and volume 1 is the dual complex of the divisor of singular curves in Hassett's moduli space of weighted stable genus g curves. One can derive plenty of topological properties of the Hassett spaces by studying the topology of these dual complexes. In this talk, we show that the spaces of tropical weighted curves of genus g and volume 1 are simply-connected for all genus greater than zero and all rational weights, under the framework of symmetric Delta-complexes and via a result by Allcock-Corey-Payne 19. We also calculate the Euler characteristics of these spaces and the top weight Euler characteristics of the classical Hassett spaces in terms of the combinatorics of the weights. (Received January 19, 2021)