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*Combinatorics and intersection number conjectures*

The purpose of this talk is to explain the combinatorial portion of a long-standing collaboration with David Jackson and Ravi Vakil. This is concerned with intersection numbers for moduli spaces and a combinatorialization by Vakil, an algebraic geometer. In particular, we describe Kazarian and Lando's recent proof of Witten's Conjecture, and our recent proof of the $\lambda_g$-Conjecture, as well as our recent proof of various infinite cases of Faber's conjecture. Our combinatorial methods feature generating series for various classes of labelled rooted trees.