Harvard-MIT Algebraic Geometry Seminar

A new candidate for the nef cone of $\overline{M}_{g,n}$

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There is a well known upper bound $F_{g,n}$ for the nef coneNef($\overline{M}_{g,n}$) of $\overline{M}_{g,n}$. The cone $F_{g,n}$ is an explicitly defined, polyhedral cone that contains Nef($\overline{M}_{g,n}$). The F-conjecture asserts that Nef($\overline{M}_{g,n}$) $= F_{g,n}$ and is known to be true for example, when $g = 0$ and $n \leq 7$, and when $n = 0$, $g \leq 24$ as well as for a number of cases in between.

In this talk, I will describe a new candidate for the nef cone of $\overline{M}_{g,n}$. This is a polyhedral cone $C_{g,n}$ that D. Maclagan and I have proved is a sub cone of $F_{g,n}$. We can show that if $F_{g,n}$ were also contained in $C_{g,n}$, then it would imply that Nef($\overline{M}_{g,n}$) $= F_{g,n} = C_{g,n}$.

In the special case $g = 0$, we can show that $C_{0,n}$ is a sub cone of Nef($\overline{M}_{0,n}$) and for low n, all three cones are equal.

Tuesday October 9th
3:00 p.m.
MIT (2-142)