

# Harvard-M.I.T. Algebraic Geometry Seminar

## TOWARDS A CANONICAL MODEL FOR THE MODULI SPACE OF CURVES

**BRENDAN HASSETT**

Rice University

Consider the moduli space of pointed stable curves as a log-variety, with boundary  $\delta$  corresponding to the nodal curves. We seek to describe its log canonical model with respect to  $K + A\delta$ . When  $A = 1$ , we recover the moduli space of stable curves; for  $A = 0$ , this would be the canonical model of the moduli space, which is expected to exist for  $g \gg 0$  after work of Eisenbud-Harris-Mumford and Farkas. For some intermediate values of  $A$ , the log canonical model can be constructed with Geometric Invariant Theory and other techniques. Examples of spaces that arise include D. Schubert's moduli spaces of pseudostable curves (with nodes and cusps), parameter spaces for bicanonical curves (allowing tacnodes as well), and moduli spaces of weighted pointed stable curves of genus zero. (work with D. Hyeon and M. Simpson)

Tuesday, December 5th  
3:00 p.m.  
Harvard Science Center 507

<http://www-math.mit.edu/ags/>