

# Special Algebraic Geometry Seminar

## DEFORMATIONS OF MODULI SPACES

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Kapranov has proposed the following informal principle: begin with a variety  $X(0)$ , and let  $X(1)$  be the moduli space of deformations of  $X(0)$ ,  $X(2)$  the moduli space of deformations of  $X(1)$ , and so on. Then this process should stop after  $d = \dim X$  steps, i.e.,  $X(d)$  should be rigid (no deformations). We prove a precise formulation of this principle in the case  $d = 1$ : we show that the moduli stack of stable curves of genus  $g$  with  $n$  marked points is rigid for each  $g$  and  $n$ . We also describe some ideas and examples in the case  $d = 2$ .

Wednesday, July 5th

1:00 p.m.

MIT Room 2-135

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