Limit linear series, a new perspective

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Abstract:
The notion of limit linear series was introduced by Eisenbud and Harris in the 80's to explain degenerations of linear series as smooth curves approach singular curves of compact type. Their theory has been used in several applications to explain the geometry of the moduli space of stable curves. Unfortunately though, stable curves of compact type, or more generally, treelike curves, give only divisorial information on the moduli space, thus the desire to extend the theory to all stable curves. Attempts to extend the theory have been made by several people, including the speaker, with only partial success. In this talk I will describe a new approach, that of degenerating points, to overcome the failures of past attempts. Joint work with Omid Amini (ENS, Paris).