

**The University of Chicago**  
**ALGEBRAIC GEOMETRY SEMINAR**

Tuesday, October 25<sup>th</sup>, 2016  
4:30-6:00 pm, Eckhart 312

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**Restricted local volumes and deformation theory**

In this talk I will introduce the restricted local volume of a line bundle as a powerful tool of deformation theory. As the name suggests it, the restricted local volume is the local counterpart of the usual restricted volume of a line bundle as introduced by Ein, Lazarsfeld, Mustață, Nakamaye and Popa. I will present a result of mine that determines the change of the restricted local volume across flat families for a fairly general class of line bundles. The change turns out to be the degree of certain projective scheme. Then I will discuss applications to deformation theory of singularities generalizing previous work of Gaffney, Kleiman, Teissier and Hironaka among others.