1131-62-346   **Emil Horobet** and **Jose Israel Rodriguez*** (`joisro@uchicago.edu`), University of Chicago, Department of Statistics, Chicago, IL 60637. *Subvarieties of the likelihood correspondence.* Preliminary report.

The likelihood correspondence encodes geometric properties of maximum likelihood estimation for discrete statistical models. Restricting the correspondence to a particular data point allows us to find all local maxima of the likelihood function on a statistical model. This solves the problem of maximum likelihood estimation under reasonable hypothesis. If one considers missing data, then we are studying the likelihood correspondence restricted to a linear space of data points. Alternatively, we can ask which data points yield critical points of the likelihood function with a particular property. All of these can be framed as instances of subvarieties of the likelihood correspondence. In this talk we use computational algebraic geometry to develop algorithms to determine these subvarieties. (Received July 18, 2017)