1057-62-120 **Stephen E. Fienberg*** (fienberg@stat.cmu.edu), Department of Statistics, Carnegie Mellon University, Pittsburgh, PA 15213-3890. *Large Sparse Data and Algebraic Statistics: Is There a Connection?*

Many of the most active areas of statistical research involve large sparse data problems where the number of variables and/or parameters is large, especially relative to the number of independent observations. Often standard statistical theory for estimation and results related to asymptotic behavior fail in such settings. The computational tools associated with algebraic statistics are often only useful for low-dimensional problems, e.g., involving a small number of parameters. In this presentation I describe how algebraic statistical and the related computational tools can nonetheless provide important insights of value in large sparse settings. My example come from contingency table settings and an array of problems involving network structures. (Received January 15, 2010)