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Seth Sullivan*, smsulli2@ncsu.edu. *Algebraic geometry of Gaussian graphical models.*

The parameter space of a Gaussian graphical model is a semialgebraic subset of the cone of positive definite matrices. This talk will describe some results on the vanishing ideals of these Gaussian graphical models. For general graphs, it is an open problem to give generators or a Grobner basis of the vanishing ideal. Special instances include well-studied ideals of combinatorial commutative algebra including determinantal ideals, secant ideals, and the vanishing ideals of matrix Schubert varieties. (Received May 31, 2015)