Meeting: 1005, Newark, Delaware, SS 6A, Special Session on High Dimensional Probability

1005-60-59 **Joseph E. Yukich*** (jey0@lehigh.edu), Department of Mathematics, Lehigh University, Bethlehem, PA 18015. *Gaussian limits for random geometric structures.*

We establish Gaussian limits for general measures induced by binomial and Poisson point processes in d-dimensional space. The limiting Gaussian field has a covariance functional which depends on the density of the point process. The general results are used to deduce central limit theorems for measures induced by random graphs (nearest neighbor, Voronoi, and sphere of influence graph), random sequential packing models (ballistic deposition and spatial birth growth models), and the process of maximal points. This is based on joint work with Yuliy Baryshnikov and Mathew Penrose. (Received January 25, 2005)