Wednesday, August 20, 3:00 p.m. Jeffery 422
Speaker: Ram Murty
Title: Generalization of a theorem of Hurwitz

Abstract: In 1898, Hurwitz established a Gaussian analogue of Euler's celebrated theorem on special values of the Riemann zeta function at even arguments. We will give a simple proof of this result and show that it is a special case of a more general theorem regarding special values of modular forms at CM points. This is joint work with Jung-Jo Lee and Donghoon Park.

Friday, August 22, 2:30 p.m.
Speaker: Gabor Lugosi
Title: Detection of correlations and high-dimensional random geometric

Abstract: In this talk we survey problems in which a high-dimensional sparse--and perhaps structured--observation is hidden in Gaussian noise. We derive general lower bounds and study the performance of some near-optimal tests. We pay special attention to computational feasibility and construct near-optimal tests that can be computed efficiently. These hypothesis testing problems lead naturally to the study of the clique number of random geometric graphs. Such a graph is constructed by drawing n independent uniformly distributed points on the surface of the d-dimensional sphere and connecting pairs of points by an edge if their distance is less than a certain threshold. We are mostly interested in the case when d is allowed to grow with n. It is shown that the clique number goes through several phase transitions. (Based on joint work with Luc Devroye, András György, Frederic Udina, Ery Arias-Castro, and Sébastien Bubeck.)