HACETTEPE ÜNİVERSİTESİ MATEMATİK BÖLÜMÜ
GENEL SEMİNERİ

(HACETTEPE UNIVERSITY MATHEMATICS GENERAL SEMINAR)

Tarih (Date) : 25.11.2015, Çarşamba (Wednesday)

Saat (Time): 15:00

Yer (Place): Yaşar ATAMAN Seminer Salonu

Konuşmacı (Speaker): Y. Doç. Dr. İbrahim Ünal (ODTÜ)

Başlık (Title): Calibrated Geometries and φ-free Submanifolds

Özet (Abstract): Calibrated geometries, introduced by Harvey and Lawson in 1982, are the geometries of calibrated submanifolds, a distinguished type of minimal submanifolds determined by a fixed, closed differential form φ called a calibration on a Riemannian manifold M. A Kahler form ω in complex geometry provides the first rich example of a calibration and calibrated geometries can be viewed as the generalization of Kahler manifolds as they have many similar properties. Recently, the introduction of plurisubharmonic functions on calibrated manifolds, which provides us doing analysis on them very similar to the one on complex manifolds, has made another type of submanifolds very important. These submanifolds are called as φ-free and are the generalization of totally real submanifolds of complex manifolds.

In this talk, I will start with an introduction to calibrated manifolds, and give the most well-known examples coming from special holonomy. Then, I will talk about the geometry and topology of φ-free submanifolds.