Abstract:
The curvature measures, first introduced by H. Minkowski under the name of quermassintegrals, have turned up in various unexpected places such as Weyl's tube formula and various Crofton-type formulas. The modern definition of these measures, is through the normal cycle, an object Morse theoretic in nature, associated to "reasonably singular" subsets of an Euclidean space and introduced independently and by different means by J. Fu and Kashiwara-Schapira. In these lectures I hope to give you a tour of the eclectic world of normal cycles, curvature measures and singular Morse theory.