Title: Scalar Curvature and Singularities

Abstract:

A central theme in modern geometry concerns the relationship between the curvature and topology of a smooth manifold. One popular measure of curvature is the scalar curvature, and a well-studied problem is that of determining whether a given smooth manifold admits a Riemannian metric whose scalar curvature is strictly positive (PSC-metric). In the case of manifolds admitting such metrics one can ask about the topology of the space of all PSC-metrics on the underlying manifold. Over the last couple of decades many interesting results, showing non-trivial topology of this space, have been obtained. In this talk, we consider the analogous problems for manifolds with various kinds of singularities and present some recent results. This is based on joint work with Boris Botvinnik.