

Workshop & SCGP Weekly Talk Speaker: Gerhard Huisken

Tuesday, September 19·1:15 – 2:15pm

Location: SCGP 102

Title: Inverse mean curvature flow and 3-manifolds

Abstract: Inverse mean curvature flow expands the mean-convex boundary of a domain in normal direction with speed equal to the inverse of the mean curvature. The talk will explain how smooth and weak solutions of the flow sweeping out regions of Riemannian 3-manifolds relate lower bounds on Ricci- and scalar curvature with global properties of the manifold such as its volume growth near infinity. Examples are isoperimetric inequalities, an alternative approach to a recent non-existence result for Ricci-pinched 3-manifolds and applications to the concepts of mass and quasi-local mass.