

Selman Akbulut

Calibrated manifolds and gauge theory

Calibrated geometries were introduced by Harvey and Lawson. Interesting calibrations appear in 7- and 8-dimensional manifolds with exceptional holonomies G_2 and $Spin(7)$. We will relate the deformation theory of 3- and 4-dimensional calibrated submanifolds of G_2 and $Spin(7)$ manifolds to their gauge theories (recent joint work with Sema Salur). For example, Seiberg-Witten equations appear as deformation equations of certain calibrated submanifolds.