
BIN GUO, Rutgers - Newark

Geometric estimates in Kähler geometry

We will discuss the role of complex Monge-Ampere equations as auxiliary equations in deriving sharp analytic and geometric estimates in Kähler geometry. By studying Green's functions, we will explore how to derive estimates for diameters and establish uniform Sobolev inequalities on Kähler manifolds, which depend only on entropy of the volume form and are independent of the lower bound of the Ricci curvature. This talk is based on joint works with D. H. Phong, J. Song, and J. Sturm.