

# **Geometric flows in complex geometry**

*Jeff Streets*

*Princeton University*

I will introduce a geometric flow of complex, non-Kähler metrics generalizing the Kähler Ricci flow, discovered in joint work with G. Tian. I will show some regularity results and exhibit Perelman-like functionals for this flow which arise due to a surprising connection to mathematical physics. Finally I will discuss a conjectural optimal regularity statement and how it relates to the long unsolved problem of the classification of complex surfaces.