1096-14-2109   **Sean T Paul*** (`stpaul@math.wisc.edu`), Department of Mathematics, University of Wisconsin, 480 Lincoln Drive, Madison, WI 53706. *Introduction to Canonical Kahler metrics and Semistable Pairs.*

One of the main problems in complex geometry is to detect the existence of "canonical" Kahler metrics in a given Kahler class on a compact complex polarized manifold. Work on this question eventually led to an interesting conjecture-the "Tian-Yau-Donaldson" conjecture which relates the existence of these special metrics (on an algebraic manifold) to the geometry of its "Kodaira images". Early work of Tian suggested that K-energy lower bounds (as well as the important coercive estimate) along Bergman potentials could be deduced from an appropriate notion of semistability. Recently, this has been worked out by the speaker (building upon work of Gang Tian and Gelfand-Kapranov-Zelevinsky and Weyman-Zelevinsky) and it is the aim of this talk to discuss the entire Theory in the context of complex algebraic groups and dominance of rational representations of such groups. (Received September 17, 2013)