1075-14-90 **Tommaso de Fernex** and **Roi Docampo*** (docampo@math.utah.edu). *Jacobian discrepancies and rational singularities.*

In this talk I will introduce the notion of Jacobian discrepancy, and extension to singular varieties of the classical definition of discrepancy for morphisms of smooth varieties. This invariants, very natural from the point of view of jet schemes and Nash blow-ups, lead to to a framework in which adjunction and inversion of adjunction hold in full generality. Moreover, they allow us to give explicit formulas measuring the gap between the dualizing sheaf and the Grauert-Riemenschneider canonical sheaf of a normal variety, leading to characterizations of rational and Du-Bois singularities in the normal Cohen-Macaulay case in terms of Jacobian discrepancies. (Received August 23, 2011)