1147-58-124 **Yanir A Rubinstein*** (yanir@umd.edu), Department of Mathematics, University of Maryland, College Park, MD 20742. *Small angle regime in complex geometry.*

A general theme in geometry is the classification of algebraic/differential geometric structures which satisfy a positivity property. I will describe an "asymptotic" version of this theme based on joint work with Cheltsov, Martinez-Garcia, and Zhang. On the algebraic side, we introduce the class of asymptotically log Fano varieties and state a classification theorem in dimension 2, generalizing the classical efforts of the Italian school. The novelty here is the use of tools of convex optimization. On the differential side, I will give a conjectural picture for existence of singular Kahler-Einstein metrics, explain progress towards this conjecture, and relations to singular Kahler-Ricci solitons. Time permitting, I will also explain some conjectures and results about the "small angle limit" when the angle tends to zero, making ties to non-compact Calabi-Yau fibrations and steady Ricci solitons. (Received December 26, 2018)