

Title: Sharp subelliptic estimates via an uncertainty principle

Abstract: In this talk I am going to report on recent joint work with S. Mongodi (University of Milano Bicocca) about the classical problem of deciding whether a subelliptic estimate for the $\overline{\partial}$ -problem holds near a given boundary point of a pseudoconvex domain in complex n -dimensional space. We are able to determine the sharp order of subellipticity for a large class of domains in three and four dimensions. The key tool turns out to be an "uncertainty principle" adapted to the complex setting, which we expect to be useful beyond the current setting.