Andreea Nicoara: Equivalence of types

Abstract: Abstract: In 1979 Joseph J. Kohn showed that the subellipticity of the $\bar{\partial}$-Neumann problem on a pseudoconvex domain with real-analytic boundary is equivalent to the termination of a certain algorithm he devised that constructed subelliptic multipliers and to the condition that all holomorphic varieties have finite order of contact with the boundary of the domain. This three-way equivalence for the more general case of a smoothly-bounded pseudoconvex domain is called the Kohn Conjecture. I will describe my solution to the Kohn Conjecture involving algebraic geometry over the non-Noetherian ring of smooth functions as well as Catlin's notions of boundary systems and multitypes.