1139-58-163 **Luca Capogna*** (lcapogna@wpi.edu), Worcester Polytechnic Institute, Department of Mathematical Sciences, 100 Institute Road, Worcester, MA 01609. *Smooth boundary extensions of biholomorphisms and the Liouville theorem in sub-Riemannian manifolds.*

Starting from an original idea of Michael Cowling, we show how one can prove a celebrated result of Charles Fefferman, concerning the smooth boundary extensions of biholomorphisms between strictly pseudo convex domains, using quasiconformal mappings.

The proof is articulated in two steps: (1) prove that biholomorphisms extend to homeomorphisms between the boundaries, that are 1-quasiconformal with respect to the sub-Riemannian metrics arising from the corresponding Levi forms; (2) prove a sub-Riemannian Liouville theorem, i.e. every 1-quasiconformal map is a smooth diffeomorphism.

This talk is based on joint work with Giovanna Citti (Bologna), Enrico Le Donne (Jyvaskyla), and Alessandro Ottazzi (New South Wales). It involves techniques and ideas from several fields, including analysis in metric space, geometric measure theory and non linear PDE. (Received February 07, 2018)