1159-53-90 **Annalisa Baldi***, Dipartimento di Matematica, Piazza di Porta S. Donato 5, 40126 Bologna, Italy. *Poincaré and Sobolev inequalities for differential forms in Heisenberg groups.*

In this talk we present some recent results obtained in collaboration with B. Franchi and P. Pansu about Poincaré and Sobolev inequalities for differential forms in Heisenberg groups (some results are new also for Euclidean spaces). For L^p, $p > 1$, the estimates are consequence of singular integral estimates. I would like to concentrate the seminar, in particular, to the limiting case L^1, where the exterior Rumin-differential of a differential form is measured in L^1 norm. Unlike for L^p, $p > 1$, the estimates are doomed to fail in top degree. In the limiting case, the singular integral estimates are replaced with inequalities which go back to Bourgain-Brezis and Lanzani-Stein in Euclidean spaces, and to Chanillo-Van Schaftingen and Baldi-Franchi-Pansu in Heisenberg groups. Also the case $p = \infty$ is considered. (Received July 31, 2020)