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Sagun Chanillo* (chanillo@math.rutgers.edu), Department of Mathematics, 110
Frelinghuysen Rd, Piscataway, NJ. *Inequalities on CR manifolds and nilpotent groups.*

We prove sharp global inequalities for the Hessian on a CR manifold with applications to p-Laplacians (joint with J. Manfredi). We also prove sub-elliptic versions of the Bourgain-Brezis inequalities on any Carnot group. This last work is joint with Jean Van Schaftingen. (Received November 26, 2007)