1017-11-91 **Alvaro Lozano-Robledo*** (alozano@math.cornell.edu), Dept. of Mathematics, 584 Malott Hall, Cornell University, Ithaca, NY 14853. *Trivial bounds and elliptic curves of maximal rank.*

The proof of the Mordell-Weil theorem for an elliptic curve E over $\mathbb{Q}$ yields "trivial" bounds for the rank of $E(\mathbb{Q})$ and for certain Selmer groups which, essentially, depend only on the number of bad primes of $E/\mathbb{Q}$. It turns out that the bound on the Selmer groups is optimal, i.e. there exist elliptic curves of arbitrarily large (two-) selmer rank which coincides with the trivial bound. Also, maximal elliptic curves (i.e. curves for which the Mordell-Weil rank coincides with the one given by the bound) have been found up to rank 12. This is joint work with J. Aguirre and J.C. Peral. (Received February 14, 2006)