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Paul Pollack* (pollack@uga.edu), Department of Mathematics, Boyd Graduate Studies
Research Center, University of Georgia, Athens, GA 30602. *Torsion subgroups of CM elliptic
curves.*

For each positive integer d , let $T(d)$ denote the supremum of all orders of groups $E(F)[\text{tors}]$ appearing for an elliptic curve E defined over a degree d number field F . A celebrated theorem of Merel asserts that $T(d) < \infty$ for all d . However, the known quantitative results in this direction are far from the conjectured truth. Let $T_{\text{CM}}(d)$ be defined the same way as $T(d)$, but with the restriction to CM elliptic curves. I will discuss some recent statistical results concerning $T_{\text{CM}}(d)$ and related functions. Perhaps surprisingly, the “anatomy of integers” (as pioneered by Paul Erdős) plays a key role in the proofs. Joint work with Abbey Bourdon and Pete L. Clark. (Received September 20, 2016)