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**Joseph H. Silverman\***, Mathematics Department - Box 1917, Brown University, Providence, RI 02912, and **Chantal David**, Department of Mathematics and Statistics, Concordia University, Montréal, Québec H3G 1M8, Canada. *Elliptic Pseudoprimes and Elliptic Carmichael Numbers*. Preliminary report.

Let  $E/\mathbb{Q}$  be an elliptic curve and let  $Q \in E(\mathbb{Q})$  be a non-torsion point. We define an *elliptic pseudoprime* for the pair  $(E, Q)$  to be a composite integer  $n$  such that  $E$  has good reduction at all primes dividing  $n$  and such that  $(n+1-a_n)\overline{Q} = \overline{O}$  in  $E(\mathbb{Z}/n\mathbb{Z})$ . We then define  $n$  to be an *elliptic Carmichael number* for  $E$  if it is an elliptic pseudoprime for every point in  $E(\mathbb{Z}/n\mathbb{Z})$ . In this talk I will discuss properties and computations related to elliptic pseudoprimes and Carmichael numbers, including an elliptic Korselt criterion. (Received August 07, 2011)