

1096-11-2561      **Edray H Goins\*** ([egoins@math.purdue.edu](mailto:egoins@math.purdue.edu)), 150 North University Street, Mathematical Sciences Building, West Lafayette, IN 47907. *ABC Triples in Families*. Preliminary report.

Given three positive, relative prime integers  $A$ ,  $B$ , and  $C$  such that the first two sum to the third i.e.  $A + B = C$ , it is rare to have the product of the primes  $p$  dividing them to be smaller than each of the three. In 1985, David Masser and Joseph Osterlé made this precise by defining a “quality”  $q(P)$  for such a triple of integers  $P = (A, B, C)$ ; their celebrated “ABC Conjecture” asserts that it is rare for this quality  $q(P)$  to be greater than 1 – even though there are infinitely many examples where this happens. In 1987, Gerhard Frey offered an approach to understanding this conjecture by introducing elliptic curves. In this presentation, we introduce families of triples so that the Frey curve has nontrivial torsion subgroup, and explain how certain triples with large quality appear in these families. We also discuss how these families contain infinitely many examples where the quality  $q(P)$  is greater than 1. (Received September 17, 2013)