1086-11-2925 **C. Sung***, 5201 University Boulevard, Laredo, TX 78041. *Some Recent Results on Odd Perfect Numbers.* Preliminary report.

A perfect number is a natural number N such that the sum of its positive divisors (including N) of N equals 2N, denoted by sigma(N) = ^{2}N. From the work of Euclid and Euler, it is known that an even natural number N is perfect if and only if there is a natural number p such that (2^p - 1) is a prime and N = (2^p - 1)$2^{(p-1)}$. Today, there are about 47 known even perfect numbers. Euler proved that for an odd perfect number N, there is a prime p = 1 (mod 4) such that N = (p^m)(q^2) with m = 1 (mod 4) and gcd(p, q) = 1. However, it is an unsolved problem in number theory whether there are any odd perfect numbers. In 1991, Brent, Cohen, and te Riele proved that odd perfect numbers are greater than 10^{300}. In 2012, Ochem and Rao modified their method to show that odd perfect numbers are greater than 10^{1500}. Some recent results on odd perfect numbers will be discussed in this presentation. (Received September 26, 2012)