1023-11-1009 **Dominic W Klyve*** (dom.klyve@dartmouth.edu), 6188 Kemeny Hall, Department of Mathematics, Dartmouth College, Hanover, NH 03755. *Summing prime reciprocals in an arithmetic progression.*

In this talk we ask the following question: Given an arithmetic progression $c \pmod{b}$, a bound x, and a degree of accuracy z, how quickly can we determine the value of the sum of reciprocals of all primes $p \leq x$, with $p \equiv c \pmod{b}$ to within z? For reasonable accuracy (say to within $z = 1/x^2$) we demonstrate an algorithm which can determine this sum in time $O(x^{2/3+\epsilon})$, using $O(x^{1/3+\epsilon}b)$ space. We conclude by discussing an application of this technique to establishing a new explicit upper bound for Brun's Constant, the sum of the reciprocals of the twin primes. (Received September 24, 2006)