
JONATHAN SORENSON, Butler University

Open problems related to finding strong pseudoprimes

In joint work with Jonathan Webster, we presented an algorithm that, given $x, m > 0$, finds all integers $\leq x$ that are strong pseudoprimes to the first m prime bases. Under the assumption of some conjectures, and assuming $m \rightarrow \infty$ with x , this algorithm takes at most $x^{2/3+\epsilon}$ time, for $\epsilon > 0$. (doi.org/10.1090/mcom/3134)

After a quick overview of how the algorithm works, in this talk we will discuss several conjectures/open problems in analytic number theory that arise in the running time analysis of this algorithm.