1122-05-320 **Zhanar Berikkyzy***, zhanarb@iastate.edu, and **Alex Schulte** and **Michael Young**. *Anti-van der Waerden numbers of 3-term arithmetic progressions.* Preliminary report.

The anti-van der Waerden number, denoted by $\mathrm{aw}([n], k)$, is the smallest r such that every exact r-coloring of $[n]$ contains a rainbow k-term arithmetic progression. Butler et. al. showed that $\lceil \log_3 n \rceil + 2 \leq \mathrm{aw}([n], 3) \leq \lceil \log_2 n \rceil + 1$, and conjectured that there exists a constant C such that $\mathrm{aw}([n], 3) \leq \lceil \log_3 n \rceil + C$. We show that this conjecture is true by determining $\mathrm{aw}([n], 3)$ for all n. This is joint work with Alex Schulte and Michael Young. (Received August 16, 2016)