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**Michael Young\*** (myoung@iastate.edu), Ames, IA 50011. *Problems on Rainbow 3-term Arithmetic Progressions.*

A 3-term arithmetic progression is a sequence of the form  $a, a + d, a + 2d$ , where  $a$  and  $d$  are nonnegative integers. Given a coloring of  $[n]$ , we say that an arithmetic progression is *rainbow* if no two elements of the arithmetic progression have the same color. An *anti-van der Waerden number* is the number of colors needed to guarantee that any coloring of  $[n]$  using all the colors must contain a rainbow 3-term arithmetic progression. In this talk, we will discuss some known and new results about anti-van der Waerden numbers in  $[n]$  and finite abelian groups. (Received August 29, 2016)