MATT BOWEN, McGill

Monochromatic products and sums in $\mathbb{N}$

An old question of Hindman asks if every finite coloring of $\mathbb{N}$ contains monochromatic sets of the form $\{x, y, xy, x+y\}$. Although this remains open, there have been several recent advances in the field of non-linear Ramsey theory, including Moreira's proof that any finite coloring of $\mathbb{N}$ contains monochromatic sets of the form $\{x, xy, x+y\}$. In this talk I will discuss some refinements of this result, including a proof of the 2-color case of Hindman's question and a common extension of Moreira's theorem and Rado's theorem on linear Ramsey families.