1145-13-1004 **Susan Morey*** (`morey@txstate.edu`), Department of Mathematics, Texas State University, 601 University Dr., San Marcos, TX 78666. *Depths of Powers of Ideals and the Power of Depth of Understanding Algebra.*

There are many ways to measure the size of objects in Commutative Algebra. One such measure for an ideal I of a ring R is the depth of R/I. This talk will focus on joint work with various groups of undergraduate or early graduate students studying this key invariant, particularly when applied to powers of ideals in polynomial rings. Early results will focus primarily on monomial ideals, with a discussion of how to make research in this area accessible to students in a way that deepens their understanding of algebraic concepts as well as builds connections between different areas of mathematics, particularly algebra and graph theory, thereby increasing depth of understanding of both fields. The talk will incorporate some new results on how to use concretely constructed initially regular sequences to realize effective depth bounds, with a discussion of open problems that show promise for being approachable by motivated students. (Received September 18, 2018)