

1163-12-1595

**Cameron Byer, Tyler Dvorachek, Emily Eckard, Joshua Harrington, Lindsey Wise\***  
(wiselm1@appstate.edu) and **Tony W. H. Wong**. *Properties of Fibotomic Polynomials*.

Fibonacci polynomials are defined recursively in the following manner:  $U_0(x) = 0$  and  $U_1(x) = 1$ , and for all  $n \geq 2$ ,  $U_n(x) = U_{n-2}(x) + xU_{n-1}(x)$ . In this talk, we consider the irreducible factors of Fibonacci polynomials, which are called the Fibotomic polynomials. The Fibotomic polynomials are known to share similar root structures with cyclotomic polynomials, which makes them an especially interesting class of polynomials to study. We prove several analogous properties for the Fibotomic polynomials that are well-known for the cyclotomic polynomials. Our investigation includes the study of the discriminants of the Fibotomic polynomials, as well as the factorization of Fibotomic polynomials modulo a prime. (Received September 15, 2020)