

1106-VQ-2832

**Ron Taylor\*** (rtaylor@berry.edu), Department of Math & CS, Berry College, Mount Berry, GA 30149, and **Eric McDowell** (emcdowell@berry.edu) and **Jill Cochran** (jcochran@berry.edu).

*Roots of polynomials with generalized Fibonacci number coefficients.* Preliminary report.

In this presentation we construct sequences of polynomials whose coefficients are generalized Fibonacci numbers. These generalized Fibonacci numbers arise from the two-term recurrence  $s_n = as_{n-1} + bs_{n-2}$  for arbitrary integers  $a$  and  $b$  with  $s_0 = 0$  and  $s_1 = 1$ . These sequences have properties similar to the classical Fibonacci numbers including a relationship between the integers  $a$  and  $b$ , and the limiting value of ratios of consecutive terms of the sequence, which we call  $\varphi_{(a,b)}$ . The sequences of polynomials arise from considering powers of the  $\varphi_{(a,b)}$  and we show that each sequence of polynomials has a subsequence whose roots converge to  $\varphi_{(a,b)}$ . (Received September 16, 2014)