1116-VN-2002 **Frank Fuentes** (frank@francizco.com) and **Monta Meirose*** (msm011@morningside.edu).
Quadratic Prime-Generating Polynomials Over $\mathbb{Z}[i]$.

The quadratic polynomial $x^2 + x + 41$ is prime for $x = 0, 1, \ldots, 39$. For this reason, it is called a prime-generating polynomial. Many other prime-generating polynomials have been discovered by computer searches, and their efficiency at producing primes can be predicted in some special cases. In this talk, we find and classify prime-generating polynomials $f(z)$, where the variable and coefficients are permitted to be Gaussian integers. Many of the same criteria for efficiency may be generalized from integer polynomials, though without a natural ordering of Gaussian integers there are some surprising differences. Since Gaussian polynomials live in a two-dimensional space, some symmetry can be observed—rotations and reflections, as well as translations, dilations, and combinations of these create more complicated families of polynomials. Our results so far have led us to polynomials that have a high efficiency on a region near 0. (Received September 21, 2015)