

THE ASSOCIATION FOR WOMEN IN MATH presents



An Introduction to Integer Valued Polynomials

with Dr. Marie B. Langlois

Tuesday, March 10
Malott 5th floor lounge



5:30pm Tacos
6:00pm Presentation



ABSTRACT:

A polynomial with rational coefficients is said to be integer valued if, when evaluated at integers, it returns an integer as well. An example of an integer valued polynomial is

$$f(x) = \frac{x(x-1)(x-2)}{6}.$$

We will start by introducing integer valued polynomials for a subset of the integers and introduce the greater problem of finding a way to describe all integer valued polynomials.

Then, we will look at some work by Manjul Bhargava, and define p -orderings and p -sequences to get a generalized factorial on a subset of \mathbb{Z} .

Finally, we will look at examples of the multivariable and homogeneous cases and how one can use tools from algebra to find these polynomials. There will be emphasis on how the results were obtained.