1077-14-197 **Megan Patnott***, mpatnott@nd.edu. *Hilbert Functions and Graded Betti Numbers of Arithmetically Gorenstein Points on General Surfaces in* $\mathbb{P}^3$. Preliminary report.

We show the existence of arithmetically Gorenstein sets of points with certain Hilbert functions and graded Betti numbers on surfaces of several degrees in $\mathbb{P}^3$. We also discuss a connection between these sets of points and rank two arithmetically Cohen-Macaulay indecomposable vector bundles on the surfaces. (Received August 11, 2011)