

1077-11-1202      **Kirsten Eisentraeger\***, Department of Mathematics, The Pennsylvania State University,  
University Park, PA 16802. *Turing's work and Hilbert's Tenth Problem.*

In 1900 Hilbert presented his now famous list of 23 open problems. The tenth problem in its original form was to find an algorithm to decide, given a multivariate polynomial equation with integer coefficients, whether it has a solution over the integers. Hilbert's Tenth Problem remained open until 1970 when Matijasevich, building on work by Davis, Putnam and Robinson, proved that no such algorithm exists, i.e. Hilbert's Tenth Problem is undecidable. In this talk we will discuss the work on Hilbert's Tenth Problem and connections to Alan Turing's work. (Received September 17, 2011)