

# BI-CO MATHEMATICS COLLOQUIUM

**Laura Hall-Seelig**  
**University of Massachusetts, Amherst**

*“Finite Fields, Curve, Points, and Genera”*

**Monday, November 24, 2008**

Talk at 4:15 p.m. – KINSC H109  
Tea at 4:00 p.m. – KINSC H208, Math Lounge

**Abstract:**

What do these four objects have in common? What brings them together? The answer: the Ihara function. This function tells us about a relationship (an asymptotic relationship) between the number of points on a curve over a finite field and an invariant of the curve called its genus. The bad news: no one knows the exact behavior of the Ihara function. The good news: many bounds for the values of the Ihara function have been computed. Using the computer algebra system MAGMA, we have been able to improve some of the known explicit lower bounds.

**HVERFORD COLLEGE**