MATH 5080 – Mathematics for Secondary School Teachers
October 24, 2015 ◆ 9:00 am – 2:30 pm (lunch provided) ◆ 406 Malott Hall

8:45 – 9:00 am **Bagels & Juice (provided)**

9:00 – 9:15 am **Introductions**

9:15 – 11:30 am **Heron, Newton, Euler, and Barney**
Prepare to be immersed in Heron's remarkable formula for triangular area! The heart of this session will be a careful examination of three clever, but different proofs of this great result. This talk will include a bit of history and biography, a personal tale or two, and the chance to look over the shoulders of some truly great mathematicians.
Speaker: William Dunham (Visiting Professor, Cornell University)

11:30 am – 12:00 pm **Lunch (provided)**

12:00 – 1:10 pm **Getting Students to Think: The Role of Interactive Graphics**
Facilitating student thinking is a major theme of the mathematical practices within the Common Core State Standards for Mathematics. One way to provide opportunities for students to think deeply about mathematics is through use of computer (or calculator) generated graphics. In this session, examples will be provided from middle-school through college-level mathematics. Audience feedback will be encouraged.
Speaker: Beverly West (Retired, Cornell University)

1:15 – 2:25 pm **The Mathematics of Pursuit**
This session is motivated by the current availability, indeed the ubiquity, of remote control helicopters. The high end of these machines have four rotors and are called quadracopters. If we were to imagine that a quadracopter could be made to aim towards, and follow, a vehicle driving on the ground, what sort of curve would be traced out by the quadracopter? (We will think of the "quadracopter" as a point moving with a fixed speed, in a direction that keeps changing in time.) In addition to focusing on mathematics (e.g., difference equations), during this session we will also talk about making this into a computer project for middle- or high-school students who are interested in programming.
Speaker: Richard Rand (Professor of Mathematics, Cornell University)

2:25 – 2:30 pm **Wrap-Up**

RSVP by Tuesday, October 20, 2015
Registration Form: https://www.math.cornell.edu/m/Community/5080#form

Questions? Contact Mary Ann Huntley (huntley@math.cornell.edu)