Special Lecture in Honor of
Leonhard Euler's 300th Birthday

Euler's Amicable Numbers

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Place: Maxwell Dworkin G-15

Abstract: In this talk, I first sketch the life and work of Leonhard Euler (1707 – 1783), whose 300th birthday is being celebrated this year. I then address a specific problem from number theory: the construction of amicable pairs (recall that two positive integers are *amicable* if each is the sum of the proper divisors of the other). The Greeks knew the amicable pair 220 and 284, and two others were found prior to the 18th century, when Euler arrived on the scene. In an awesome display of mathematical power, he found 58 new ones! I shall examine *how* he did it – i.e., how he single-handedly increased the world's supply of amicable numbers twenty-fold. His argument is clever yet so easy to follow that we will generate a "new" amicable pair right before your eyes. This provides another reminder, if another is necessary, of why Euler is such a towering figure in the history of mathematics.

NOTE: Any mathematics major (or minor) should find the talk easily accessible.