## TWO MORE MORSELS FROM eULER

## Undergraduate Math Club CORNELL UNIVERSITY <br> SPEAKER <br> Professor William Dunham



ABSTRACT
I'll present two proofs from Leonhard Euler, the greatest mathematician of the $18^{\text {th }}$ century. In these arguments, which require only elementary mathematics, Euler's genius is on full display. The first result is from number theory, where Euler sought four different whole numbers, the sum of any two of which is a perfect square. I'l show how he came up with the fearsome foursome of 18530, 38114,45986 , and 65570.
The other is his derivation of the "Euler Identity" i.e., $e^{i x}=\cos x+$ $i \sin x$ that, improbably, uses integral calculus as its starting point.

The great mathematician himself, Leonhard Euler.

## NOV 9 •4:30

## 5th floor lounge • refreshments served

