Many Cheerful Facts
Organizer: Alvin Kerber
Wednesday Jan 25, 3:00pm-4:00pm, 891 Evans

Speaker: Andy Voellmer, UC Berkeley
Title: *Russell's Principia Mathematica and the Evolution of Mathematical Rigor*

In the early 20th century, Bertrand Russell and Alfred North Whitehead published the magnificent three-volume *Principia Mathematica*, which (the authors claimed) reduces all of mathematics to pure logic, and establishes the truth of the axioms of arithmetic and analysis on purely logical grounds. I will discuss the history and philosophy of mathematics from the 17th century leading up to the publication of Russell's *Principia*. We will also critically consider whether *Principia* succeeded in its lofty aims, and (time permitting) look at some more recent developments in this area.

I am the very model of a modern Major-General,
I've information vegetable, animal, and mineral,
I know the kings of England, and I quote the flights historical
From Marathon to Waterloo, in order categorical;
I'm very well acquainted, too, with matters mathematical,
I understand equations, both the simple and quadratical,
About binomial theorem I'm teeming with a lot o' news,
With many cheerful facts about the square of the hypotenuse.
I'm very good at integral and differential calculus;
I know the scientifc names of beings animalculous:
In short, in matters vegetable, animal, and mineral,
I am the very model of a modern Major-General.