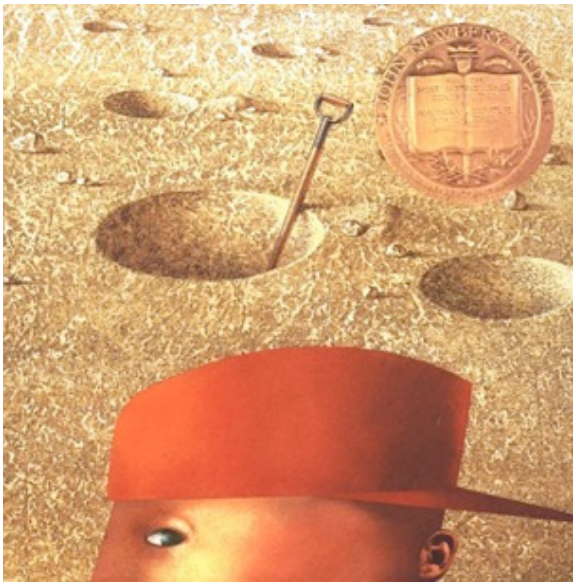
The SUMO Speaker Series for Undergraduates

(food from Pizza Chicago)
Wednesday, January 6
4:15-5:05, room 380C



p-adic numbers:
theory and applications

Prof. Brian Conrad

Abstract: The real numbers are obtained from the rational numbers by ``filling in the holes'' relative to the usual notion of distance among rational numbers. But there are other notions of distance among rational numbers, a bit hard to visualize geometrically but very useful in number theory. This gives rise to cousins of the field of real numbers, called the field of p-adic numbers (one for each prime p).

We will show how p-adic numbers exhibit properties analogous to the real numbers, and also how p-adic power series can be used to elegantly solve a natural question whose formulation and answer do not explicitly mention p-adic numbers at all: what can be said about the location of zeros in linear recurrence relations in integers?

sumo.stanford.edu/speakers