MANY CHEERFUL FACTS

presents

The Perilous Perturbatory Perihelion Precession Problem

a talk by Michael Pejic

2:10–3:00pm on Tuesday, October 14, in 1015 Evans.

Perturbation theory has been a common technique for scientific calculation of small effects. Unfortunately, the standard use of this method in periodic dynamical systems has been beset by difficulties due to the arising of secular terms. One approach to avoiding these problems, the multiple rescaling method, will be demonstated through the calculation of the effect on the precession of Mercury's perihelion of Asaph Hall's 1894 suggested correction to Newton's gravitational law.

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 fights 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!

— Gilbert & Sullivan, $P \circ P$

The website for Many Cheerful Facts is
`http://math.berkeley.edu/~mcf/`