## The World of Mathematics and Statistics

SWARTHMORE COLLEGE • DEPARTMENT OF MATHEMATICS AND STATISTICS

## Math/Stat Colloquium



## Ellen Eischen University of Oregon

An Introduction to the Bernoulli Numbers, from Pythagoras to Present

We'll explore several problems — elementary and sophisticated, ancient and modern — that appear to come from vastly different areas, ranging from arithmetic to geometry to calculus to abstract algebra and beyond. Is traversing such a diversity of fields in a 50-minute talk sensible? Yes, thanks to the "Bernoulli numbers!" This collection of numbers unifies a set of topics that seem at first to be unrelated (including polynomials, infinite series, factorization, the Riemann zeta function, Fermat's Last Theorem, and more). After beginning with questions accessible to any undergraduate, we will eventually encounter topics that play a major role in research today.

**Tuesday, October 18** SC 199

Refreshments 4:15pm; Lecture: 4:30pm-5:30pm