CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES
MATH CLUB AT CCSU

COLLOQUIUM

Friday, September 25
1:00 – 2:00 PM
Maria Sanford, Room 203

BENFORD'S LAW: WHY THE IRS MIGHT CARE ABOUT THE 3X+1 PROBLEM AND THE RIEMANN ZETA FUNCTION

STEVEN J. MILLER

WILLIAMS COLLEGE

ABSTRACT

Many systems exhibit a digit bias. For example, the first digit base 10 of the Fibonacci numbers or of 2^n equals 1 about 30% of the time; the IRS uses this digit bias to detect fraudulent corporate tax returns. This phenomenon, known as Benford's Law, was first noticed by observing which pages of log tables were most worn from age -- it's a good thing there were no calculators 100 years ago! We'll discuss the general theory and application, talk about some fun examples (ranging from the 3x+1 problem to the Riemann zeta function), and discuss some current open problems suitable for undergraduate research projects.

For further information:
gotchevi@ccsu.edu 860-832-2839
http://www.math.ccsu.edu/gotchev/colloquium/