

# VCU Discrete Mathematics Seminar

## *A Proof of Bertrand's Postulate*

**Prof Dan Cranston**  
**VCU!**

Tuesday, December 2

12:30–1:20

4119 Harris Hall

Bertrand's Postulate states: For every positive integer  $n$ , there is some prime number  $p$  with  $n < p \leq 2n$ . This result was conjectured in 1845 by Joseph Bertrand, who verified it for all  $n < 3 \times 10^6$ , and it was proved five years later by Chebyshev (nearly 50 years before the prime number theorem was proved). I'll present a beautiful proof of this result due to Paul Erdős. Here's a couplet from Paul.

**Chebyshev said it, and I'll say it again. There's always a prime between  $n$  and  $2n$ .**

