Lethbridge Number Theory and Combinatorics Seminar

Monday — October 16, 2017
Room: C630
Time: 12:00 to 12:50 p.m.

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Normally Distributed Arithmetic Functions

Abstract: In the late 1930s, Paul Erdős attended a seminar at Cornell University given by Mark Kac, who suspected that divisibility by primes satisfies a certain "statistical independence" condition. If this were true, the central limit theorem could be used to show that the number of distinct prime factors of n, as n varies over the natural numbers, is normally distributed, with mean $\log\log n$ and standard deviation $\sqrt{\log\log n}$. Erdős used sieve methods to confirm Kac's intuition, and the resulting Erdős-Kac theorem is a foundational result in the field of probabilistic number theory. Many different proofs of and variations on the Erdős-Kac theorem have been given in the intervening decades. This talk will highlight some of these results and the techniques used to obtain them, including recent work of the speaker and Greg Martin (UBC).

EVERYONE IS WELCOME!

Visit the seminar web page at
http://www.cs.uleth.ca/∼nathanng/ntcoseminar/

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