Lethbridge Number Theory and Combinatorics Seminar

Monday — November 19, 2018
Room: C630
Time: 12:00 to 12:50 p.m.

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Perron's formula and explicit bounds on sums

Previously, in this seminar series, we have heard about explicit bounds on

$$\psi(x) := \sum_{n \leq x} \Lambda(n),$$

which refers to the von Mangoldt function $\Lambda(n)$. The point of lift-off for bounding this sum is the explicit formula, which pulls the zeros of the Riemann zeta-function into the equation. However, there are other sums for which using an explicit formula is currently unconditionally impossible. In this talk, I will outline the work of my current thesis, in which I prove bounds for a somewhat general function $\sum_{n \leq x} \frac{a_n}{n^s}$ with $a_n, s \in \mathbb{C}$, and apply these bounds to the sums

$$M(x) := \sum_{n \leq x} \mu(n) \quad \text{and} \quad m(x) = \sum_{n \leq x} \frac{\mu(n)}{n},$$

which refer to the Möbius function $\mu(n)$.

EVERYONE IS WELCOME!

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

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