Lethbridge Number Theory and Combinatorics Seminar

Monday — January 29, 2018
Room: B543
Time: 12:00 to 12:50 p.m.

Nathan Ng

Mean values of long Dirichlet polynomials

Abstract: A Dirichlet polynomial is a function of the form

$$A(t) = \sum_{n \leq N} a_n \, n^{-it}$$

where a_n is a complex sequence, $N \in \mathbb{N}$, and $t \in \mathbb{R}$. For $T \geq 1$, the mean values

$$\int_0^T |A(t)|^2 \, dt$$

play an important role in the theory of L-functions. I will discuss work of Goldston and Gonek on how to evaluate these integrals in the case that $T < N < T^2$. This will depend on the correlation sums

$$\sum_{n \leq x} a_n \, a_{n+h} \text{ for } h \in \mathbb{N}.$$

If time permits, I will discuss a conjecture of Conrey and Keating in the case that a_n corresponds to a generalized divisor function and $N > T$.

EVERYONE IS WELCOME!

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

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