Lethbridge Number Theory and Combinatorics Seminar

Monday — February 3, 2020
Room: **C620**
Time: 12:00 to 12:50 p.m.

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On the eta quotients whose derivatives are also eta quotients

In classical q-series studies there are examples of eta quotients whose derivatives are also eta quotients. The most famous examples can be found in works of S. Ramanujan and N. Fine. In 2019, in a joint work with P. C. Toh, we have given 203 pairs of such eta quotients, which we believe to be the complete list (see "When is the derivative of an eta quotient another eta quotient?", J. Math. Anal. Appl. 480 (2019) 123366). Recently, D. Choi, B. Kim and S. Lim have given a complete list of such eta quotients with squarefree levels (see "Pairs of eta-quotients with dual weights and their applications", Adv. Math. 355 (2019) 106779). Their findings support the idea that our list is complete.

In this talk we introduce a beautiful interplay between eta quotients, their derivatives and Eisenstein series. Then we share our work in progress (joint with A. Akbary) in proving the completeness of our list beyond squarefree levels.

EVERYONE IS WELCOME!

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

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