

# NUMBER THEORY SEMINAR

*Bernoulli Symbol  $\mathcal{B}$ : from umbral calculus to random variable and combinatorics*

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WHEN: Fri 13 Oct. 2017, 9:30 a.m.

WHERE: Chase 227

ABSTRACT:

The Bernoulli symbol comes from umbral calculus, with simple evaluation rule that identifying super index, i.e., power, and lower index. Recently, the probabilistic interpretation allows to view the evaluation as expectation of the Bernoulli random variable, having hyperbolic secant square as its density on the whole real line. Further study on the corresponding moment problem, cumulants, especially orthogonal polynomial sequence and continued fractions, links Bernoulli numbers to generalized Motzkin numbers, providing combinatorial interpretations.

Any questions, please e-mail: [rnoble@mathstat.dal.ca](mailto:rnoble@mathstat.dal.ca).