THE UNIVERSITY　　　**OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

COLLOQUIUM

The sum of digits in different bases

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Abstract

For $q \geq 2$, let $s_q(n)$ denote the sum of digits of an integer n in the base q expansion. Answering, in an extended form, a question of Deshouillers, Habsieger, Laishram, and Landreau, we show that, provided a and b are multiplicatively independent, any positive real number is a limit point of the sequence $\{s_b(n)/s_a(n)\}_{n \geq 1}$. We also provide bounds for the counting functions of the corresponding subsequences. The proof is based on exponential sums, discrepancy estimates and transcendence theory. This is joint work with R. de la Bretèche and G. Tenenbaum.

Date:	October 3, 2019 (Thursday)
Time:	2:30 – 3:30pm
Venue:	Room 210, Run Run Shaw Bldg., HKU

All are welcome