THE UNIVERSITY  OF HONG KONG

Institute of Mathematical Research
Department of Mathematics

Analysis Seminar

The Cesàro operator on Local Dirichlet Spaces

Mr. William Verreault
Department of Mathematics
University of Toronto

Abstract

The family of Cesàro operators $\sigma_n^\alpha, n \geq 0$ and $0 \leq \alpha \leq 1,$ consists of finite rank operators on Banach spaces of analytic functions on the open unit disc. We investigate these operators as they act on the local Dirichlet spaces. It is well-established that they provide a linear approximation scheme when $\alpha > \frac{1}{2}$, with the threshold value $\alpha = \frac{1}{2}$ being optimal. We strengthen this result by deriving precise asymptotic values for the norm of these operators when $\alpha \leq \frac{1}{2}$, corresponding to the breakdown of approximation schemes. Additionally, we establish upper and lower estimates for the norm when $\alpha > \frac{1}{2}$.

Based on joint work with Eugenio Dellepiane, Javad Mashreghi, and Mostafa Nasri.

Date:	November 10, 2025 (Monday)
Time:	2:00 – 3:00pm
Venue:	Rm 309, Run Run Shaw Bldg., HKU

All are welcome