



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

ALGEBRA AND GEOMETRY SEMINAR

**Ext enhanced Soergel bimodules, link homology,
and Gomi's trace**

by

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Abstract

Soergel Bimodules began as an alternative approach to proving the illustrious Kazhdan-Lusztig conjectures and have since become a cornerstone of representation theory and link homology. In this talk, we will give a diagrammatic presentation for Ext groups between Soergel Bimodules in rank 2 à la Elias-Khovanov and Elias-Williamson. We then use our results to (1) show how it helps with computing triply graded link homology for braids on 3 strands (2) show how Ext groups of Soergel Bimodules in rank 2 categorifies Gomi's Trace, a generalization of Markov's trace to the Hecke algebra of any finite Coxeter group.

Date : 10 April 2024 (Wednesday)

Time : 2:00pm – 3:30pm

Venue : Room 2126D (Lift 19)

Zoom meeting :

<https://hkust.zoom.us/j/92781946467?pwd=amdWb2JBUUNtY0FaTWdSWFpqOHRMz09>

Meeting ID: 927 8194 6467

Passcode: 184178

All are Welcome!