



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

## **ALGEBRA AND GEOMETRY SEMINAR**

**Cohomological integrality for 2-Calabi-Yau categories**

by

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### **Abstract**

In this talk, I will explain how one can decompose the cohomology of moduli stacks of objects for a large class of 2-Calabi-Yau categories. Our main tools are cohomological Hall algebras (CoHAs) and their associated BPS algebras (in their associative and Lie algebra versions). Important examples are given by representations of preprojective algebras of quivers and finite length sheaves on surfaces. In the latter case, we can recover the generating series of Betti numbers of the moduli stack in an efficient way.

**Date : 16 October 2023 (Monday)**

**Time : 3:00pm – 4:30pm**

**Venue : Room 5560 (Lifts 27/28)**

**Zoom : <https://hkust.zoom.us/j/95221420856> (Passcode: 390519)**

*All are Welcome!*

**Note:** The talk will be delivered via Zoom but will also be streamed at Room 5560.  
Everyone is welcome to join us in person at Room 5560.