



ALGEBRA AND GEOMETRY SEMINAR

The Hong Kong University of Science and Technology
Department of Mathematics

Cohomological Hall algebras of 1-dimensional sheaves and Yangians

by Francesco Sala
from University of Pisa

The first part of this talk provides a brief and gentle introduction to the theory of 2-dimensional cohomological Hall algebras. The second part focuses on the introduction of the nilpotent cohomological Hall algebra $\text{COHA}(S, Z)$ of coherent sheaves on a smooth quasi-projective complex surface S set-theoretically supported on a closed subscheme Z . When S is the minimal resolution of an ADE singularity and Z is the exceptional divisor, I will describe how to characterize $\text{COHA}(S, Z)$ via the Yangian of the corresponding affine ADE quiver. (joint project with Emanuel Diaconescu, Mauro Porta, Oliver Schiffmann, and Eric Vasserot.)

Room 3598 (Lift 27-28) Wed, Mar 19, 2025 04:00 PM

