

## ABSTRACT FIRST ANTIPODE WORKSHOP 2018

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### *Hall algebras of directed categories*

Abstract:

Hall algebras of quiver representations are closely related to the quantized universal enveloping algebras of the associated Kac-Moody Lie algebras. In this talk, we introduce the notion of Hall algebras of directed categories, which can be thought of as generalizations of representations of quivers of Dynkin type. This allows us to define and study quantized enveloping versions of  $\mathfrak{sl}(\infty)$ . In particular we obtain multiple Hopf algebra structures on the quantized enveloping algebra of  $\mathfrak{sl}(\mathbb{N})$ . This talk is based on a joint work with Guillaume Pouchin and Adam-Christiaan van Roosmalen.