



Department of Mathematics  
The Chinese University of Hong Kong

For Favour of Posting

數學系  
香港中文大學

Phone: (852) 3943 7988-9 • Fax: (852) 2603 5154 • Email: dept@math.cuhk.edu.hk  
Rm. 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

# Representation and Number Theory Seminar

## Braid Group Symmetries on $i$ -quantum Groups

by

*Mr. Weinan Zhang*  
*University of Virginia*

### Abstract:

Lusztig's braid group symmetries constitute an essential part in the theory of quantum groups. The  $i$ -quantum groups are coideal subalgebras of quantum groups arising from quantum symmetric pairs, which are now viewed as natural generalizations of quantum groups. Recently, joint with Wang, we constructed relative braid group symmetries on  $i$ -quantum groups of arbitrary finite type, which are  $i$ -analogs of Lusztig's symmetries. In this talk, I will present this finite-type construction and its generalization to Kac-Moody types. I will define root vectors in  $i$ -quantum groups and show that relative braid group symmetries send root vectors to root vectors.

Date : 22 November 2022 (Tuesday)  
Time : 9:00am – 10:00pm (Hong Kong SAR)  
Zoom link :  
<https://cuhk.zoom.us/j/97838822137?pwd=ZTVvSC9abmNjR3RCcS9FTzJNTVhXdz09>  
Meeting ID : 978 3882 2137  
Passcode : sesame

*All are Welcome*