

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research  
Department of Mathematics*

# Representation Theory Seminar

## Pieri rule and highest weight modules of the general linear algebras

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National University of Singapore

Date: May 22, 2024 (Wednesday)

Time: 3:00 - 4:00pm

Venue: Room 210, Run Run Shaw Building,  
HKU

### Abstract

The Pieri rule for  $GL_n = GL_n(\mathbb{C})$  is one of the best known results on tensor product of representations. It describes the irreducible decomposition of  $V \otimes S^k(\mathbb{C}^n)$  where  $V$  is an irreducible polynomial representation of  $GL_n$  and  $S^k(\mathbb{C}^n)$  is a symmetric power of the standard representation on  $\mathbb{C}^n$ . In this talk, we will explain how to use the Pieri rule to obtain weight multiplicities and bases of some highest weight modules of the general linear algebra.

*All are welcome*