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**The Hong Kong University of Science and Technology**

**Department of Mathematics**

**Seminar on Pure Mathematics**

**Generalized coinvariant algebras as cohomology rings**

By

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**Abstract**

Haglund, Rhoades, and Shimozono introduced a generalization of the coinvariant algebra of  $S_n$  whose dimension is the number of ordered set partitions of  $n$  into  $k$  blocks for a fixed  $k \leq n$ , and whose graded Frobenius characteristic is a symmetric function arising in the Delta conjecture of Haglund-Remmel-Wilson, a strengthening of the (former) shuffle conjecture. We show that this generalized coinvariant algebra (with its  $S_n$ -module structure) is the ordinary cohomology ring of the space of  $n$ -tuples of lines spanning  $C^n$ , and construct a Schubert-like affine paving of this space, giving Schubert bases for the generalized coinvariant algebras. This is joint work with Brendon Rhoades.

**Date: Wednesday, 16 May 2018**

**Time: 5:00p.m. - 6:00p.m.**

**Venue: Room 5508, Academic Building  
(near Lifts 25 & 26), HKUST**

***All are welcome!***