

Workshop on Combinatorial Hopf Algebras  
and Macdonald Polynomials

May 7 – 11, 2007

# $K$ -homology of Grassmanian and some new combinatorial Hopf algebras

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## **Abstract**

We start with the Hopf algebra generated by stable Grothendieck polynomials and we recover analogs of  $\text{QSym}$ ,  $\text{MR}$  and  $\text{NSym}$ . Then we define dual stable Grothendieck polynomials which describe  $K$ -homology of Grassmanian in the same way as stable Grothendieck polynomials describe its  $K$ -theory.

*This is joint work with Thomas Lam.*