

# 國立中山大學應用數學系

## 學術演講

講者：Hsin-Chieh Liao (University of Miami)  
講題：Stembridge codes, Chow rings of the permutahedral varieties, and their extensions  
時間：2024/1/9 (Tuesday) 4:10 pm ~ 5:00 pm  
地點：理學院四樓理 SC 4009-1 室

### Abstract

It is well known that the Eulerian polynomial is the Hilbert series of the cohomology of the permutohedral variety. In this talk, we answer a question of Stembridge on finding a permutation basis for the permutation representation this cohomology carries. Our method involves an  $\mathfrak{S}_n$ -equivariant bijection between a basis for the Chow ring of the Boolean matroid and codes introduced by Stembridge. There is a parallel binomial Eulerian story related to the stellahedral variety. We also find a permutation basis for the permutation representation on the cohomology of the stellahedral variety. This involves the augmented Chow ring of a matroid introduced by Braden, Huh, Matherne, Proudfoot and Wang. Along the way, we also obtain some new results on augmented Chow rings.

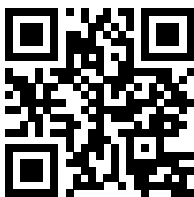
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