Contribution ID: **9**   Type: **not specified**

Symplectic duality and the Tutte polynomial

Thursday 9 October 2025 10:00 (1 hour)

The Tutte polynomial was introduced in the 1940s as a two-variable generalisation of the chromatic polynomial of a graph. It is the universal matroid invariant satisfying a deletion-contraction relation, and is the subject of much recent work.

I will describe a geometric realisation of the Tutte polynomial via the cohomology of a symplectic dual pair of hypertoric varieties. The same construction associates an interesting two-variable polynomial to any pair of symplectically dual spaces, whose one-variable specialisations recover the respective Poincare polynomials. Joint work with Ben Davison.

Presenter: MCBREEN, Michael (The Chinese University of Hong Kong)