

# THE ROLE OF THE SIMPLEX IN DUNKL THEORY

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## ABSTRACT

In this talk I will focus on recent progress in determining the generalized Bessel function, Dunkl kernel and Dunkl intertwining operator for dihedral and symmetric groups. As it turns out, interesting explicit expressions can be found by introducing an auxiliary integration over the simplex. This is due to the appearance of the 2nd Humbert function, a multivariate hypergeometric function that can be expressed as the integral over the simplex of an exponential function.

The talk is based on two recent papers:

## REFERENCES

- [1] H. De Bie, P. Lian, Dunkl intertwining operator for symmetric groups. To appear in *Proc. Amer. Math. Soc.*
- [2] H. De Bie, P. Lian, The Dunkl kernel and intertwining operator for dihedral groups. *J. Funct. Anal.* **280**, 108932 (2021)

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