1125-81-1199 **De Bie**, **Genest*** (vxgenest@mit.edu) and **Vinet**. *The Z_n^2 Dirac-Dunkl operator and a higher rank Bannai-Ito algebra.*

In this talk, I will discuss the n-dimensional Dirac-Dunkl operator associated with the reflection group Z_n^2 . I will exhibit the symmetries of this operator, and describe the invariance algebra they generate. The symmetry algebra will be identified as a rank-n generalization of the Bannai-Ito algebra. Moreover, I will explain how a basis for the kernel of this operator can be constructed using a generalization of the Cauchy-Kovalevskaia extension in Clifford analysis, and how these basis functions form a basis for irreducible representations of Bannai-Ito algebra. Finally, I will conjecture on the role played by the multivariate Bannai-Ito polynomials in this framework. (Received September 15, 2016)