1145-11-2630   **Adriana Salerno***, 3 Andrews Rd, Lewiston, ME 04240, and **Charles F Doran**, **Tyler L Kelly**, **Steven Sperber**, **John Voight** and **Ursula Whitcher**. *Hypergeometric decomposition of symmetric K3 quartic pencils.*

In this talk, we will show the hypergeometric functions associated to five one-parameter deformations of Delsarte K3 quartic hypersurfaces in projective space. We compute all of their Picard–Fuchs differential equations; we count points using Gauss sums and rewrite this in terms of finite field hypergeometric sums; then we match up each differential equation to a factor of the zeta function, and we write this in terms of global L-functions. This computation gives a complete, explicit description of the motives for these pencils in terms of hypergeometric motives. (Received September 25, 2018)

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