Algebra Seminar

Mahler measures of hypergeometric families of Calabi-Yau varieties

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Abstract: The (logarithmic) Mahler measure of an n-variable Laurent polynomial P is defined by $m(P) = \int_0^1 \cdots \int_0^1 \log|P(e^{2\pi i\theta_1}, \ldots, e^{2\pi i\theta_n})|\, d\theta_1 \cdots d\theta_n$. In some certain cases, Mahler measures are known to be related to special values of L-functions. We will present some new results relating the Mahler measures of polynomials whose zero loci define elliptic curves, $K3$ surfaces, and Calabi-Yau threefold of hypergeometric type to L-values of elliptic modular forms. A part of the talk is joint work with Matt Papanikolas and Mat Rogers.

Wednesday, April 10, 2013, 3:00 pm
Mathematics and Science Center: W306

Mathematics and Computer Science
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