Pure Mathematics Seminar

Recent Results on the Maximal Coefficients Gaussian Polynomials

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It is well known that the coefficients of Gaussian polynomials $\binom{N+m}{m}$ are unimodal and symmetric.

Two recent papers by H. Hahn hint at a partial characterisation of the largest coefficients of the family of Gaussian polynomials of the form $\binom{N+3}{3}$. In this talk we provide a complete characterisation of the maximal coefficients of Gaussian polynomials $\binom{N+3}{3}$. Our general results come from a novel manipulation of the $q$-series informed by polyhedral geometry in which we establish a quasipolynomial for $\binom{N+3}{3}$. Additionally, we extend a theorem on first differences of partitions into at most three parts to the coefficients of Gaussian polynomials $\binom{N+3}{3}$.

As part of a larger research project, we discuss similar results for $\binom{N+4}{4}$ and the generalisation to $\binom{N+m}{m}$.

Date: Friday, December 1, 2017  
Time: 10:00 am  
Place: Edinburg: EMAGC 1.324, Brownsville: Dean’s conference room

The talk will be delivered live at the Edinburg campus and will be streamed to the Brownsville campus.

Coffee has a chance to be served.

For further information or for special accommodations, please contact Dr. Sergey Grigorian via email at sergey.grigorian@utrgv.edu, or Dr. Alexey Garber at alexey.garber@utrgv.edu, or visit the webpage http://www.utrgv.edu/math/news-events/seminars/puremath/index.htm