

Probabilistic Operator Algebra Seminar

Organizer: Dan-Virgil Voiculescu

September 18 **Michael Anshelevich**, Texas A&M

Title: *Hermite trace polynomials*

Ordinary Hermite polynomials have been generalized in many directions. We will discuss their extension to the setting of trace polynomials. This extension preserves a number of familiar properties, including contraction and product formulas, and behavior under conditional expectations. While the Hermite trace polynomials are not orthogonal, they can be modified to obtain several versions of the chaos decomposition. Along the way we will make connections to the work of Biane, of Bozejko and Guta, and to Hermite polynomials of matrix argument. This is joint work with David Buzinski.