Function theory for the Drury Arveson space

The Drury-Arveson space H^2_d is the space of analytic functions in the unit ball of $\mathbb{C}^d$ defined by the reproducing kernel $k_w(z) = \frac{1}{1-\langle z,w\rangle}$. Alternately an analytic function f is in H^2_d if $R^N f \in L^2((1-|z|^2)^{2N-d}dV)$ for some (and hence all) $N > (d-1)/2$, where R denotes the radial derivative operator $R = \sum_{i=1}^d z_i \frac{\partial}{\partial z_i}$.

The space has been shown to be of importance for the theory of tuples of commuting Hilbert space operators. The emerging function theory for H^2_d takes advantage of the facts that the reproducing kernel has the Pick property and that the space is a weighted Besov space.

In this talk I will speak about joint work with Aleman, Perfekt, Sundberg, and Sunkes on multipliers and cyclic vectors for H^2_d.