Trieu L. Le* (trieu.le2@utoledo.edu). Weighted composition operators on the Drury–Arveson space.

For a cardinal $d$, the Drury–Arveson space $H^2_d$ can be identified as a reproducing kernel Hilbert space with kernel $K(z, w) = (1 - \langle z, w \rangle)^{-1}$, where $z, w$ belong to the unit ball $\mathbb{B}_d$ of a $d$-dimensional Hilbert space. Let $f$ be in $H^2_d$ and $\varphi$ be a holomorphic self-map of $\mathbb{B}_d$. The weighted composition operator $W_{f, \varphi}$ is defined on $H^2_d$ by $W_{f, \varphi}h = f \cdot (h \circ \varphi)$. Researchers have been interested in studying how the operator theoretic properties of $W_{f, \varphi}$ affect the function theoretic properties of $f, \varphi$ and vice versa. In this talk we shall discuss when the adjoint operator $W_{f, \varphi}^*$ is a weighted composition operator, or the inverse of a weighted composition operator. Consequently, we provide characterizations for $W_{f, \varphi}$ to be self-adjoint or unitary. (Received August 29, 2013)