1086-47-1316   **James Carter*** (`carter42@iupui.edu`). *Commutants of composition operators on the Hardy space.* Preliminary report.

For ϕ a map of the unit disk into itself, the induced composition operator C_ϕ acts on the Hilbert space of analytic functions on the disk by $C_\phi f = f \circ \phi$. The composition operator is bounded and several properties of the operator can be deduced from the properties of the symbol ϕ. If $\phi_t = e^{-t}z + 1 - e^{-t}$ where $t > 0$, then $\phi_t(1) = 1$ and $\phi_t'(1) < 1$ and the induced composition operators are not compact, however the operators do form a semigroup. Given a bounded operator, A, the set of operators that commute with A is called the commutant of A and each such operator, B, satisfies the equation $AB = BA$. In the case where ϕ induces a compact composition operator, a complete characterization of the commutant is well-known. The definition of commutant can be extended to a set of operators and this talk will discuss which operators commute with every C_{ϕ_t} for $t > 0$ as well as some of the properties of the commuting operators. (Received September 21, 2012)