1046-47-207 **Carl C Cowen** (ccowen@iupui.edu) and **Gajath Gunatillake*** (mgunatillake@aus.edu), Department of mathematics and statistics, POBOX 26666, Sharjah, United Arab Emirates, and **Eungil Ko** (eiko@ewha.ac.kr). *Hermitian Weighted Composition Operators on Weighted Hardy Spaces.*

When f and φ are analytic on the unit disk and φ maps the unit disk to itself, the weighted composition operator $W_{f,\varphi}$ is defined by $W_{f,\varphi}(g) = f \cdot g \circ \varphi$ for g in an appropriate space. In this talk, we consider Hermitian weighted composition operators on weighted Hardy spaces, that is, on spaces of analytic functions on the disk for which the norm of $g(z) = \sum a_j z^j$ is given by $\|g\|^2 = \sum \beta(j)^2 |a_j|^2$ for a suitable weight sequence β.

In particular, necessary conditions will be provided for a weighted composition operator to be Hermitian on such spaces. On weighted Hardy spaces for which the kernel functions are $(1 - \overline{w}z)^{-n}$ for $n \geq 1$, such as the Hardy and the Bergman spaces, the two maps f and φ are explicitly identified. In the Bergman space, the spectral measures will also be computed. In the case when the spectral measure is continuous, the spectral subspaces turn out to be invariant subspaces for multiplication by z on the Bergman space and our results on Hermitian weighted composition operators can be used to compute the extremal functions for these subspaces. (Received August 19, 2008)