1135-47-2770 **Waleed K. Al-Rawashdeh***, Montana Tech, 1300 West Park Street, Butte, MT 59701.
Generalized composition operators on Weighted Hilbert Spaces of Analytic Functions.

Let φ be an analytic self-map of the open unit disk $\mathbb{D}$ and g be an analytic function on $\mathbb{D}$. The generalized composition operator induced by the maps g and φ is defined by the integral operator

$$I_{(g,\varphi)}f(z) = \int_0^z f'(\varphi(\zeta))g(\zeta)d\zeta.$$

Given an admissible weight ω, the weighted Hilbert space $\mathcal{H}_\omega$ consists of all analytic functions f such that $\|f\|^2_{\mathcal{H}_\omega} = |f(0)|^2 + \int_{\mathbb{D}} |f'(z)|^2 w(z)dA(z)$ is finite. In this talk, we characterize the boundedness and compactness of the generalized composition operators on the space $\mathcal{H}_\omega$ using the ω-Carleson measures. Moreover, we give a lower bound for the essential norm of these operators. (Received September 26, 2017)