1151-47-100   **Flavia Colonna** and **Shams Alyusof*** (`salyusof@gmu.edu`), 2750 Gallows Rd, Apt 636, Vienna, VA 22180. *Weighted composition operators from analytic function spaces into the weighted-type Banach spaces $\mathcal{V}_n$.*

In this talk, we characterize the bounded and the compact weighted composition operators from a large class of Banach space X of analytic functions on the open unit disk $\mathbb{D}$ into the weighted-type Banach spaces $\mathcal{V}_n$, for an integer $n > 2$, whose elements f satisfy the condition

$$\sup_{z \in \mathbb{D}}(1 - |z|^2)|f^{(n)}(z)| < \infty,$$

thereby extending known results for the cases $n = 1, 2$. In addition, we provide equivalent conditions that characterize the boundedness and the compactness of the weighted composition operators when the target space is the weighted little-type Banach space $\mathcal{V}_{n,0}$, consisting of the functions $f \in \mathcal{V}_n$ such that

$$\lim_{|z| \to 1}(1 - |z|^2)|f^{(n)}(z)| = 0.$$

We apply our results to the cases when X is the Hardy space H^p and the weighted Bergman space A_α^p for $\alpha > -1$ and $p > 1$. Lastly, we discuss the case when the domain of the operator is the space S^p, whose elements are derivatives of functions in H^p, in which our general results are not applicable. (Received August 11, 2019)