## 1172-30-161

Munirah Aljuaid, Dept. of Mathematics, Arar, 73222, Saudi Arabia, and Flavia Colonna\* (fcolonna@gmu.edu), Department of Mathematical Sciences, 4400 Univesity Drive, Fairfax, VA 22030. Composition operators between Banach spaces of harmonic mappings. Preliminary report.

In this talk, we provide the topological and function theoretic conditions needed on the Banach space X of harmonic mappings on the open unit disk  $\mathbb{D}$  for the composition operator with domain X and target space a class of weighted-type Banach spaces of harmonic mappings to be bounded, or compact. A special effort is made to single out the conditions that lead to an approximation of the essential norm in terms of the symbols and of the norm of the point-evaluation functionals on the space. The main goal of our work is thus to provide boundedness and compactness criteria, as well as estimates of the operator norm and the essential norm (and in several cases, derive exact formulas) of such operators that are valid for many functional Banach spaces all at once, where the axiomatic conditions needed can be easily checked on a case by case basis. We analyze the case when the domain space X is a harmonic version of a weighted Hardy space. This is joint work with Munirah Aljuaid. (Received August 24, 2021)