Sky Pelletier Waterpeace*, Mathematics Department, Rowan University, 201 Mullica Hill Rd, Glassboro, NJ 08028. A Novel Generating Function for a Parametrized Family of Möbius-like Arithmetic Functions Related to the Riemann $\zeta$ Function.

We introduce a generating function for a novel generalized Möbius $\mu$ function defined in terms of partial sums of geometric series in $\frac{1}{p^s}$ and $\frac{-1}{p^s}$, and others, for primes $p$, and for complex $s = \sigma + it$, where $\sigma, t \in \mathbb{R}$, as usual. The standard Möbius $\mu(n)$ and Louiville $\lambda(n)$ functions are seen to be special cases of the general function. (Received September 18, 2019)