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**Talitha M Washington\*** ([talitha.washington@howard.edu](mailto:talitha.washington@howard.edu)), 4119 Postgate Terrace Apt 303, Silver Spring, MD 20906. *Employing Conservation Laws to Construct Nonstandard Finite Difference Schemes.*

Often in modeling with differential equations, conservation laws arise such as in population dynamics. In this talk, we discuss how various laws lead to the construction of nonstandard finite difference (NSFD) schemes. Our schemes will be formulated within the NSFD methodology of Ronald Mickens. By using a number of well-known population models, we will illustrate the details of our procedures by constructing appropriate NSFD discretizations. We will show that by incorporating the conservation laws into the scheme, we can achieve a better approximation to the solution. (Received September 13, 2016)