1077-VJ-2638   **Daniel Joseph Galiffa*** (`djg34@psu.edu`). *On the Linear Generating Function for the Charlier Polynomials.* Preliminary report.

In this talk, we discuss three ways to obtain the linear generating for the Charlier orthogonal polynomials. We begin by showing how to achieve this generating function using the well-known first principles approach. Then, we discuss how to obtain this generating function using the three-term recurrence relation that defines the Charlier polynomials by constructing and solving a first-order differential equation. From there, we show how to derive an additional three-term recurrence relation for a variation of the Charlier polynomials that also leads to the aforementioned generating function via a first-order differential equation. We conclude our discussion by addressing some results related to bilinear and bilateral generating functions for the Charlier polynomials, as well as generating functions for the q-Charlier polynomials and also consider future research. (Received September 22, 2011)