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Irina Gheorghiciuc* (gheorghici@andrew.cmu.edu), 5000 Forbes Ave, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213, and **Emily Allen**. *On Gessel super Catalan Polynomials.*

The integers $S(m, n) = \frac{\binom{2m}{m}\binom{2n}{n}}{\binom{m+n}{n}} = \frac{(2m)!(2n)!}{m!n!(m+n)!}$ were first studied by Eugene Catalan in 1874. Gessel refers to them as super Catalan numbers. In this paper we present two q -analogs of the super Catalan numbers, which also generalize Carlitz's q -Catalan numbers $c_n(\lambda)$ for $\lambda = 0$ and $\lambda = 1$. We give a combinatorial interpretation for one of these analogs when $m = 2$. In the process we introduce several q -Ballot numbers and give their combinatorial interpretation. (Received September 25, 2018)