1145-05-2118 **Larry Ericksen*** (larryericksen@gmail.com), P.O. Box 172, Millville, NJ , and **Karl Dilcher**.
The combinatorics of lattice paths and tilings associated with b-ary Stern polynomials.

A b-ary Stern sequence is defined as the number of ways of writing a positive integer as the sum of powers of an integer b, with each power being used at most b times. As analogues of these number sequences, we create polynomials which explicitly encode these hyper b-ary representations.

Recursive Lucas sequences, like the Fibonacci numbers, are identified as subsequences in these b-ary sequences. We then interpret their associated combinatorics in terms of lattice paths, tilings and posets. The tilings use squares and dominoes, while the lattices include steps of weighted Delannoy paths. (Received September 24, 2018)