1125-11-1686 **Larry Ericksen*** (larryericksen@gmail.com), PO Box 172, Millville, NJ 08332, and **Karl Dilcher** (dilcher@mathstat.dal.ca), 6264 Yukon Street, Halifax, NS B3L 1G1. *Continued fractions from Stern numbers and generalized polynomials.*

We derive finite and infinite continued fractions from Stern polynomials in two variables, as determined by their recursion formulas and generating functions.

Furthermore we identify algorithms that select elements in Stern's diatomic sequence, based on binary representations of their subscripts. We obtain recursion formulas with determinant weights that specify individual paths through the Stern number trees.

We then construct continued fractions from these generalized number sequences. We use a similar approach to extend our results to continued fractions in Stern polynomials.

Numerous examples are provided to highlight methodology and illustrate special continued fractions. (Received September 18, 2016)