1154-11-1900 **Andrew Bridy*** (andrew.bridy@yale.edu), Yale University, PO Box 208301, New Haven, CT 06520. *Automatic sequences and curves over finite fields.*

An amazing theorem of Christol states that a power series over a finite field is an algebraic function if and only if its coefficient sequence can be produced by a finite automaton. The proof uses combinatorics and linear algebra, but hidden in the theorem there is geometric information about a curve that contains the series in its function field. I make this explicit by demonstrating a precise link between the complexity of the automaton and the geometry of the curve. (Received September 16, 2019)