1102-05-56 **Steven V Sam*** (svs@math.berkeley.edu). *Gröbner bases, formal languages, and applications.*

I'll begin by recalling the combinatorial proof of the Hilbert basis theorem using Dixon's lemma (which says, for fixed r, that the poset of r-tuples of nonnegative integers does not contain any infinite antichains under termwise comparison) and how reinterpreting monomial ideals in terms of regular languages recovers the result on rationality of Hilbert series. Then I'll mention a more general combinatorial setup and some applications in algebra and topology (buzzphrases might include "syzygies of Segre varieties" and "generic representations of finite general linear groups and the Steenrod algebra").

Joint work with Andrew Snowden. (Received July 13, 2014)