1120-05-24 **Kirsten Hogenson*** (kahogens@iastate.edu) and **Ryan R Martin** (rymartin@iastate.edu).
A random version of the r-fork-free theorem.

Let $\mathcal{P}(n)$ denote the set of all subsets of [n] and let $\mathcal{P}(n,p)$ be the set obtained from $\mathcal{P}(n)$ by selecting elements independently at random with probability p. The r-fork poset is the family of distinct sets $F, G_1, ..., G_r$ such that $F \subset G_i$ for all i. De Bonis and Katona showed that, for fixed r, any (r+1)-fork-free family in $\mathcal{P}(n)$ has size at most $(1+o(1))\binom{n}{\lfloor n/2 \rfloor}$. In this talk, I will discuss a similar result for (r+1)-fork-free families in $\mathcal{P}(n,p)$. In particular, if $pn \to \infty$, then with high probability, the largest (r+1)-fork-free set in $\mathcal{P}(n,p)$ has size at most $(1+o(1))p\binom{n}{\lfloor n/2 \rfloor}$. This result is influenced by the work of Balogh, Mycroft and Treglown, who proved a random version of Sperner's theorem using the hypergraph container method. (Received January 20, 2016)