1112-62-611 **Johannes Rauh*** (jarauh@yorku.ca), Department of Mathematics and Statistics, York University, 4700 Keele Street, Toronto, ON M3J1P3. *Exponential random graphs and their polytopes.* Preliminary report.

Exponential random graph models (ERGMs) are statistical random graph models of exponential family type. While they inherit many of the nice theoretical properties of exponential families, in practice they also exhibit many degeneracies that makes it difficult to use them in applications. First, in applications, the sample size is usually small, and very often there is just a single observed network from which the parameters have to be estimated. Second, many ERGMs behave like the Erdős-Rényi model, even if they have a lot more parameters.

As usual for exponential families, a lot of information can be obtained by studying the convex support polytope. In my talk, I will review some examples in which these polytopes (or some of their properties) are known. (Received August 11, 2015)