**June 2012**

**MADALGO seminar by Freek van Walderveen, Aarhus University**

**Computing betweenness centrality in external memory**

**Abstract:**

Betweenness centrality is one of the most well-known measures of the importance of nodes in a social-network graph.  In this paper we describe the first known external-memory and cache-oblivious algorithms for computing betweenness centrality, including general algorithms for networks with weighted and unweighted edges and a specialized algorithm for networks with small diameters, as is common in social networks exhibiting the "small worlds" phenomenon.

**Joint work with Lars Arge and Michael T. Goodrich**