1010-92-26 **Tanya Y. Berger-Wolf*** (tanyabw@cs.uic.edu), Department of Computer Science, University of Illinois at Chicago, 851 S. Morgan (M/C 152), Rm 1136 SEO, Chicago, IL 60607-7053, and **Jared Saia** (saia@cs.unm.edu), Department of Computer Science, University of New Mexico, Albuquerque, NM 87131. *A Framework for Analysis of Dynamic Social Networks.*

Finding patterns of social interaction within a population has wide-ranging applications including: disease modeling, cultural and information transmission, phylogeography, conservation, and behavioral ecology. Recently, scientists have started to model social interaction with graphs (networks). One of the intrinsic characteristics of societies is their continual change. However, majority of the social network analysis methodologies today are essentially static in that all information about the time that social interactions take place is discarded or long time series are averaged to discern the overall or long-term strength of connections. Such approach not only may give inaccurate or inexact information about the patterns in the data, but it prevents us from even asking questions about the temporal causes and consequences of social structures. In this paper we propose a new mathematical and computational framework that allows analysis of dynamic social networks addressing the time component explicitly. We present several algorithms that explore the social structure in this model and pose many open questions. (Received August 19, 2005)