



Colloquium

Tuesday May 1, 2007

1pm Room 08-2130

**“THE STATISTICAL MECHANICS OF NETWORKS,
AND WHY YOUR FRIENDS HAVE MORE FRIENDS
THAN YOU DO”**

**Mark Newman
University of Michigan**

Networks or graphs provide a convenient mathematical representation of the topology of a wide variety of complex systems, such as the Internet and world wide web, citation networks, social networks, biochemical networks, neural networks, and food webs. This talk will give a gentle introduction to the mathematics of networks, which has close connections to the field of statistical mechanics in physics. I will focus in particular on one of the most fundamental of network properties, the distribution of the number of connections a node has, which has profound effects on all sorts of phenomena. Among other results, I will demonstrate why it is very likely that your friends have more friends than you do.

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School of Mathematical Sciences Colloquium Series