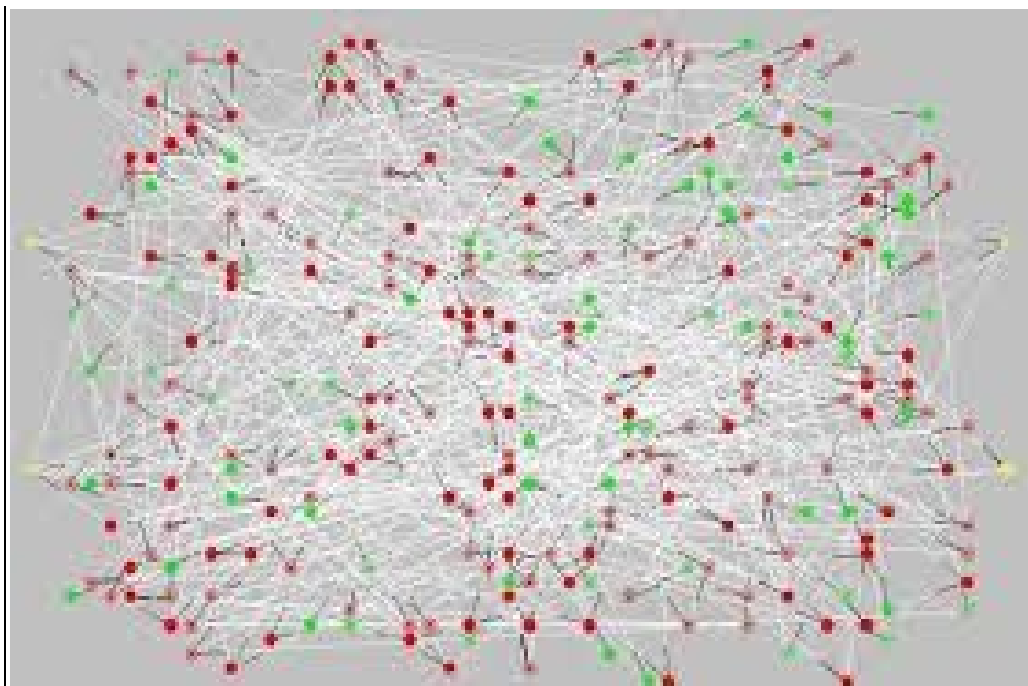THE GRADUATE CENTER

CITY UNIVERSITY OF NEW YORK

Prof. Amotz Bar-Noy Research Project:

"Large Networks: Degree Sequences and other Degree-Related Profiles"

One of the hottest research topics in the field of Networking is understanding the structure of large networks. This is particularly true in the emerging sub-field of Social Networks.

This project focuses on properties that are related to the degrees of the nodes and their neighbors in large networks (graphs). The following are the project's three main objectives: (i) Study and analyze the degree sequences and other related sequences (profiles) of existing networks and some random networks. (ii) Look for full characterizations of types of profiles that can be realized by networks. (iii) Explore the space of all graphs whose profiles match some given characteristics.

Students will have an opportunity to participate in cutting edge research topics that could lead to research papers and/or a thesis. Members of this research project will be engaged with individual or group sub-projects that involve algorithm design and analysis including coding.

- Prerequisites: A course in Algorithm and proficiency in programming (any language is fine).