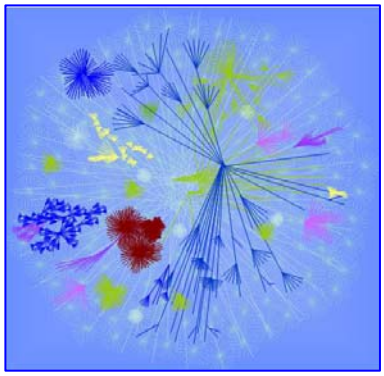

INSTITUTE FOR PURE AND APPLIED MATHEMATICS
Los Angeles, California

Agent-Based Complex Systems

October 12 - 14, 2009

ORGANIZING COMMITTEE: **ANDREA BERTOZZI** (UCLA), **ALETHEA BARBARO** (UCLA)

Scientific Overview

Agent-based complex systems feature prominently in many areas of science. These disparate fields are mathematically linked by modeling based on autonomous agents whose relatively simple interactions lead to emergent coherent phenomena. Our discussion will focus on the impact of social interactions on the global dynamics of a community, modeling decision-making, the spread of contagion or information via interactions among individual agents, and how the relationships among distinct groups of individuals affect the pairwise interactions of the individual agents and the dynamics of each group considered as a whole. Research areas which give rise to this sort of topic include epidemiology, flocking animals, territorial behavior of wolves, myxobacterial swarming, and crime modeling.

With such a diversity of academic fields represented, we can expect this workshop to have many exciting and beneficial discussions. We would like to focus our efforts on two pursuits: to allow experts in their field to share their research with others examining similar problems in complex systems, and also to encourage discussion among the scientists in order to set the parameters of a new pursuit.

Participation

Additional information about this workshop including link to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.

www.ipam.ucla.edu/programs/onr2009

IPAM is an NSF funded institute