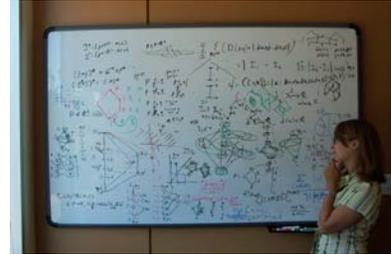




**Workshop Description:**

We rarely view math and computer science as inherently “social sciences”; yet, they can play an important role in helping to understand and address problems facing society.



Computational and mathematical algorithms can optimize the use of scarce resources; they can model the spread of disease and the propagation of warnings during an emergency; identify patterns and anomalies that signal a disease outbreak, cyberattack, or simply equipment needing maintenance; they can help us understand and respond to the dynamics of human behavior during an evacuation; improve cargo screening; and help a computer become a *Jeopardy!* champion. These are just a few of the uses of mathematical and computational algorithms that are underway at the Center for Command Control and Interoperability for Advanced Data Analysis (CCICADA), a Department of Homeland Security Center of Excellence led by Rutgers.

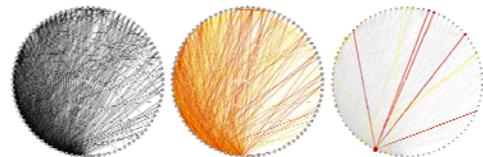


This workshop is organized by the seven graduate student fellows associated with CCICADA and intended for an undergraduate audience or anyone who would simply like to gain insights on some of these uses of math and computer science. The talks will highlight the work of CCICADA students and faculty and emphasize ways in which math and computer science are playing a role in addressing issues that affect society or are helping us understand it better.

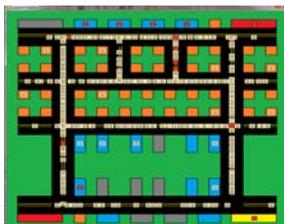
The workshop will examine timely and important applications from a variety of fields. These include emergency response, public health, medicine, social media and networking, and will feature a panel discussion on “emerging challenge areas” to which mathematical modeling and computer algorithms can be brought to bear.

**Organizing Committee:**

**Student Organizers:** Ed Chien (Math) Bobby DeMarco (Math), Brad Greening (Ecology), Emilie Hogan (Math), Scott Kulp (CS), Matthew Oster (Operations Research), Brian Thompson (CS)



**Faculty Organizer:** Tami Carpenter (DIMACS)



**Sponsors:**

- Command, Control, and Interoperability Center for Advanced Data Analysis (CCICADA), a DHS Center of Excellence
- Center for Discrete Mathematics and Theoretical Computer Science (DIMACS)