



## RECONNECT Workshop 2015

### Mathematical and Computational tools for Social Networks with Applications to Homeland Security

**Where:** Rochester Institute of Technology

**When:** June 14-20, 2015

#### About Reconnect:

The CCICADA Summer Reconnect Workshops expose faculty teaching undergraduates to the role of the mathematical and computer sciences in homeland security and provide an opportunity to researchers in government or industry to learn about recent material in various areas. Topics are presented in a weeklong series of lectures and activities; participants are involved in both research activities and in writing materials useful in the classroom or to share with their colleagues. Participants may develop materials for publication in either the CCICADA Technical Reports Series or the Educational Modules Series published by the DIMACS Center at Rutgers University.

#### Topic: Mathematical and Computational tools for Social Networks with Applications to Homeland Security

A social network simply described is a set of actors (or points, or nodes, or agents) that may have relationships (or edges, or ties) with one another. Networks can have few or many actors, and one or more kinds of relations between pairs of actors. To build a useful understanding of a social network, a complete and rigorous description of a pattern of social relationships is a necessary starting point for analysis. That is, ideally we need to know about all of the relationships between each pair of actors in the population. The amount of information that we need to describe even small social networks can be quite great. Managing these data, and manipulating them so that we can see patterns of social structure can be tedious and complicated, but computational and mathematical tools are increasingly used to better understand and use the social network. Speakers will highlight the use of graph theory, algorithm development, economics through social networks, and responses to national and international catastrophes in social networks.

**Organizers:** Dr. Midge Cozzens, Research Professor, DIMACS Center, Rutgers University  
Dr. Maurino Bautista, Professor of Mathematics, Rochester Institute of Technology

**Keynote Speaker:** Dr. Anatoliy Gruzd, Associate Professor, Ted Rogers School of Management Director, Social Media Lab, Ryerson University, Toronto Canada

**Speakers:** Dr. Kathleen Carley, Professor, School of Computer Science, Carnegie Mellon University  
Dr. Christie Nelson, Postdoctoral Associate, CCICADA Center, Rutgers University  
Dr. Ralucca Gera, Associate Professor, Department of Applied Mathematics, Naval Postgraduate School

**Registration fees, lodging, meals and travel:** *Academic participants from US institutions:* registration, lodging in single rooms and meals will be provided through DHS funding. *Academic participants from non-US institutions:* \$350. *Government participants:* \$350. *For-Profit Corporation participants:* \$500 (includes all meals from Sunday dinner to Saturday lunch). Limited funds are expected to be available to provide partial support for travel.

**Deadline for Applications is March 15, 2015 or until all slots are filled.** Applications will be submitted online found on the Reconnect on the CCICADA.org web page under education/Reconnect 2015, and will be reviewed as they are received.

**For more information:** Christine Spassione ([spassion@dimacs.rutgers.edu](mailto:spassion@dimacs.rutgers.edu)) or Midge Cozzens ([midge6930@comcast.net](mailto:midge6930@comcast.net)) or visit the Reconnect web page <http://ccicada.org/Reconnect/2015/>.