

**SPECIAL
POINTS OF
INTEREST**



Network Science Center at West Point



Advancing the Study of Network Science

VOLUME 2, ISSUE 6

MAY 2012

6th Annual Network Science Workshop

West Point serves as a unique hub for the Network Science Community. The existing blend of military, civilian, academia, industry, and government creates opportunities that exist nowhere else. More than 80 researchers from all of these communities were at West Point last week to participate in the 6th Annual Network Science Workshop. Each year the Network Science Center at West Point (NSC) with support from the Army Research Office holds a workshop to encourage sharing of current research and to foster collaborations in the field of network science.

ity (DHS) gave the lunch talk which was an overview of his department. He spoke of the difficulty of bringing military technology and equipment to meet the needs of the DHS mission during challenging fiscal times.

The afternoon was filled with more presentations, sharing of insights and collaborations. The day ended with social hour at Patton's Tavern followed by dinner and a talk by Dr. Bruce West, Senior Scientist Mathematics in the Army Research Office (ARO), who spoke on 'Complex Networks: consensus, Control and Minority Opinion'. Dr. West explained a Decision Making Model (DMM) which has provided insight into why inflexible minorities can dominate behavior in complex networks.

The workshop concluded on Tuesday with a panel discussion which explored Progress in Network Science. The discussion centered around whether or not Networks Science really is a science yet and how the tools which are being developed are useful in creating models to help explain complex networks.

COL John Graham, Director of the NSC stated, "Starting a new science is not easy. While we formally discuss our scientific progress, the annual workshop serves as a place for leaders to share and discuss organizational, bureaucratic and resourcing challenges of a new science. In the case of Network Science, the

**Congratulations
go out to all of
our graduating
Cadet
Researchers!**



CDT Ian Garrett shares information on 'Controlling Robot Swarms with a Smartphone' with Dr. Ananthram Swami from ARL.

The workshop began Sunday afternoon with a Hudson River boat ride and dinner in the Haig room. Dr. Rand Waltzman, DARPA, spoke on the 'History of the Internet'. Cadets also had an opportunity to present their research to workshop participants.

Welcomes from Network Science Center Director COL John Graham and Dr. Chris Arney, Network Science Chair and Director of Curriculum Integration and Interdisciplinary Activities, kicked off the first day of the workshop. This was followed by Dr. John Pellegrino who spoke on 'Emerging Directions in Network Science'. He spoke of several trends that are having an impact on network science research including: increased use of smart phones and commercial cellular networks, escalating use of social media, increased dependence on exponentially growing sets of data, and military operations which are more and more complex.



COL Greg Wilson, CORE Lab, NPS, sharing background information about a slide on the Columbia FARC Network.

Army Research Office sends their most experienced program leaders to listen, advise and guide." This expertise was beneficial to all who attended but perhaps the most important result of the workshop was the opportunity for outside researchers to understand how their ground breaking theoretical work can translate into applications to be used by our soon-to-graduate cadets.

NSC brings together faculty and cadets to research and develop the study of networks and the representations of physical, biological, and social phenomena leading to predictive models. Because of the inherently interdisciplinary nature of network science, NSC works with faculty members from many USMA academic departments to research complex problems specific to the military. The unique ability to bring these disciplines together provides an opportunity for significant contributions to the defense of the United States against both conventional military threats and the threat of terrorism. The annual workshop held here at West Point gave faculty members and cadets a chance to showcase their research and learn about network science initiatives taking place outside of the Academy.



Undergraduate students, Post Doctorates, and Professors all shared network science insights in an environment that fostered collaborations.

The focus of this year's workshop was to explore topics which transform military applications including: Networks in Command and Control, The Networked Patrol Leader (ex: Warrior Web, TIGR), Networks and Social Media, and Organizational Analysis.

Dr. Daniel Gerstein, Deputy Under Secretary for Science and Technology, Department of Homeland Secu-

Important Dates:

21 May —Final NSC Brown bag lunch 12:00
26 May—West Point Graduation

Current Publications/Presentations:

Current articles are on NSC website under Publications or linked below:

[Cooperation in Team Games.](#)

[Negotiation-Motivated Social Network Analysis and Influence to Reduce and deter corruption.](#)

Social Networks:



[Facebook](#)



[Twitter](#)



[Linked In](#)

[Central Node](#)

