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- [Cadets Win Math Competition](#)
- [Researchers Present at St. Cyr](#)

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## WP Cadets and Faculty Participate in French Robotics Colloquium

Cadets Nolan Miles ('13) and Stephen Rogacki ('13) along with COL Huggins, an academy professor in the department of EECS, travelled to the St. Cyr military academy in Guer, France 9-11 November 2011 to participate in **the International Colloquium on Robots on the Battlefield**. The cadets presented the results of their research efforts over the past six months. They have been investigating robot swarms, which are groups of relatively simple robots that work as a team to accomplish complex tasks. CDT Miles has focused on developing a foraging algorithm that enables a robot swarm to search for a target in an unknown environment. CDT Rogacki has

been developing software for the Android phone that will allow a user to interact with and control a robotic swarm. "Cadets Miles and Rogacki worked on this during their free time; it is not part of a course requirement. Instead, they have been inspired by the topic and have taken ownership of their education," states COL Huggins. Their work is part of the Flowing Valued Information Project—a network science research effort that seeks to enhance the distribution of information on the battlefield. COL Huggins also gave a talk entitled "Bringing the cloud to the soldier: challenges and opportunities," which detailed the results of his collaborative effort with a team

from the Canadian Defense R&D in Quebec. This joint effort is focused on developing a mobile, tactical cloud communications architecture implemented with a swarm of semi-autonomous robots. The trip proved not only technically fulfilling but also culturally enriching. The cadets lodged with their French counterparts and were able to get a firsthand perspective of life as a cadet at St. Cyr. Through their many encounters, Cadets Miles and Rogacki also made numerous contacts for future collaboration. Follow this link for more information on the [Flowing Valued Information Project](#).

## Researchers Explore Historical Networks

Researchers on the Historical Networks project, "Exposing the Hidden Hand in History: Civil-Military Social Networks and State Stability," are using network science to explore the unique case of Tanzania to look for the evolution of civil-military networks and their inherent stabilizing abilities within developing states. Tanzania was chosen because it offered a definitive beginning point (the modern armed forces only came into being in 1964); theoretically tight network between the national political party, the central government and the military; and offered several historical periods of political stress as embodied by the economic reforms put into place during International Monetary Fund (IMF) structural adjustment in the 1980s and the transition to multi-

partyism in 1992. It was assumed that by tracing the networks before and after these periods, which Tanzania weathered with little to no instability, it would be possible to trace this stability to surface networks and, more significantly, also to expansive, hidden networks that had developed in the previous decades of Civil-Military collaboration.

Difficulty in the process of gathering data has altered several of the initial premises of the research. Last summer MAJ John Ringquist, Mr. Charles Thomas and cadet researchers managed to get a large amount of data, for all targeted time ranges except the 1980s evolutions of the Tanzanian Civil-Military Network. While the general trajectory of the project has remained the same, the difficulty

of conducting primary materials research in Tanzania has meant that certain aspects of the data are not able to be fully explored. These constraints along with better knowledge of network analytical tools such as ORA and AutoMap have guided the research in a new direction. The initial concept of a series of networks has evolved into a dynamic network spanning several decades. The next step will be to combine this with the GIS functionality of ORA to show the expansion of the Tanzanian Civil-Military Networks both within Tanzanian society and geographically around the world. Follow this link for more information on the [Historical Networks Project](#).

## Important Dates:

Abstracts for Sunbelt conference are due by 30 Nov 2011  
Upcoming Brown bag lunches - 30 Nov and 14 Dec

## Current Publications:

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

[Developing Functional Networks of Frontier Capital Markets](#)

[Political Parties, Praetorianism, and Politicization of the Tanzanian Military](#)

[A Robust, Multi-criteria Modeling Approach for Optimizing Aeromedical Evacuation Asset Placement](#)

