



NSF Campus Cyberinfrastructure PI and Cybersecurity Innovation for Cyberinfrastructure PI Workshop

October 3-4 | Albuquerque, New Mexico

NSF Program: CICI

Program Area: CE

Award Number: 1738981

PI: Sonia Fahmy, Purdue University

co-PIs: Nicole Key, Ida Ngambeki, Bruno Ribeiro, Xiao Zhu

Project Title: Enhancing Cybersecurity for Broadening Data-Driven Research and Partnerships



PI: Sonia Fahmy
Professor of Computer
Science
Purdue University
fahmy@cs.purdue.edu



Nicole Key
Professor of Mechanical
Engineering
Purdue University
nkey@purdue.edu



Ida Ngambeki
Assistant Professor of
Computer Information
and Technology
Purdue University
ingambeki@purdue.edu



Bruno Ribeiro
Assistant Professor of
Computer Science
Purdue University
ribeirob@cs.purdue.edu



Xiao Zhu
Senior Research Scientist
of Research Computing
Purdue University
zhu472@purdue.edu



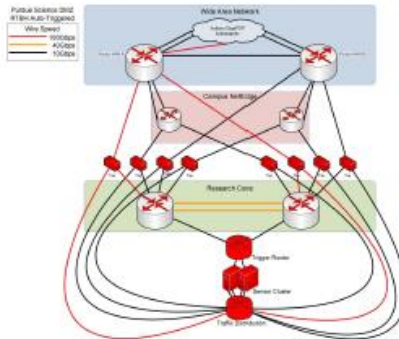
Quad Chart for: Enhancing Cybersecurity for Broadening Data-Driven Research and Partnerships

Challenge:

- Meet growing demands for information security from the increase in industrial, governmental and global partnerships.
- Current campus-wide intrusion prevention and network monitoring systems cannot cope with the scope of data flows passing through the Science DMZ.

Solutions:

- Integrate state-of-the-art network hardware and intrusion detection software to enhance the network security monitoring and response capabilities.
- Design, implement, and evaluate *adaptive* intrusion and anomaly detection algorithms to improve scalability and response latency.



Broader Impact:

- Enable various research projects with diverse security requirements in a unified network.
- Help expand public-private partnerships in a collaborative university environment
- Furnish realistic network traffic flow data to network security researchers.
- Provide opportunities to students for developing real-world skills.

Metadata tag:

- Project period: Oct 1st, 2017 to Sept 30th, 2019
- Collaboration of Purdue Computer Science, Information Technology, Engineering & Polytechnic.
- Started the process of procuring the equipment.
- Recruited four undergraduate students to work with mentors in IT security, network and research computing.