

Department of Mathematics, Statistics and Computer Science

**SPECIAL COLLOQUIUM ANNOUNCEMENT**

**Dr. Yinzhi Cao**

Computer Science Department

Columbia University

New York, NY

***Enhancing System Security and Privacy with Program Analysis***

**1:00 p.m**., Friday, January 30, 2015

**Abstract**

Cyber security and privacy have brought the attention from the general public these days. Melissa Hathaway, who advised both President Obama and President Bush, estimated in a report that governments and consumers lost $125 billion annually to cyber-attacks, including losses in tax revenue. In this talk, from the perspective of program analysis, I will discuss the security and privacy of two important computer systems: Web browser and Android system. In the first part, I will introduce how to prevent and detect drive-by download attacks, which penetrate the boundary of a browser principal. In particular, I will present JShield, a vulnerability-based detection engine that is more robust to obfuscated drive-by download attacks, when compared to various anti-virus software and most recent research papers. In the second part, I will introduce EdgeMiner, the first automatic tool that creates summaries of Android framework in the form of callback and registration pairs. With the summaries, existing static analysis system can correctly construct a control flow graph with hidden control flow dependencies introduced by callback methods.

**1313 W. Wisconsin Avenue, Cudahy Hall, Room 401, Milwaukee, WI 53201-1881**

**For further information:** [**http://www.mscs.mu.edu/mscs/resources/colloquium.html**](http://www.mscs.mu.edu/mscs/resources/colloquium.html)**,**

**or contact Dr. Rong Ge #414-288-6344, rong.ge@marquette.edu.**

Pre-Colloquium refreshments served in Room 342 at 12:30 p.m.