CHALMERS

Networks and Systems security group 2011

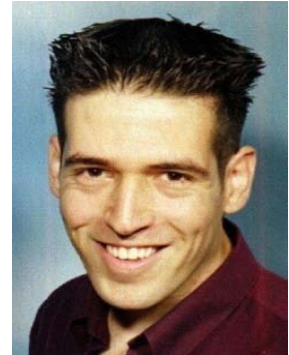Wolfgang John

Erland Jonsson Philippas Tsigas Tomas Olovsson Marina Papatriantafilou Magnus Almgren Elad Schiller
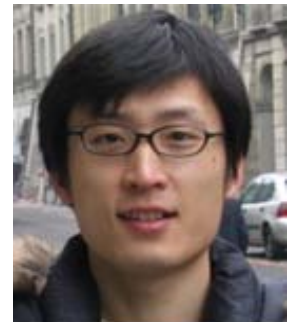
Asrin Javaheri Farnaz Moradi Laleh Pirzadeh Pierre Kleberger Andreas Larsson Zhang Fu

Some of our current projects 1 (3)

- **Security Metrics**
  - Develop methods for quantitative assessment of security and dependability
  - Based on novel approaches to security modeling

- **Intrusion detection (IDS) systems**
  - Study of methods to correlate alerts
  - How to automatically tune them based on the operators' priorities

- **Mitigating Distributed Denial-of-Service (DDoS) attacks**
  - Methods to mitigate DDoS attacks at application-level and network-core-level
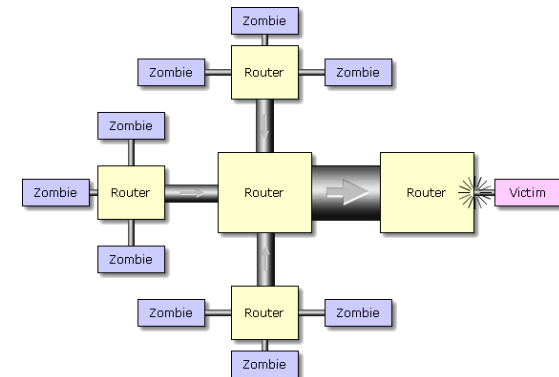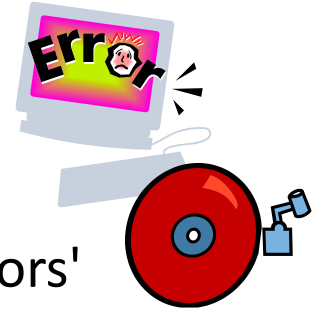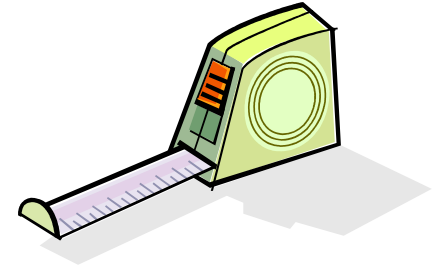
Some of our current projects 2 (3)

- Traffic monitoring and analysis on large networks
  - To characterize, understand and find undesired network traffic
  - Work with large networks and Internet backbone links

- Network defense against spam
  - To identify spam traffic in small networked devices without inspecting the mail
  - Use of social network techniques to identify communication patterns

- Secure and Fault-tolerant sensor networks
  - Dealing with communicating nodes in dynamic, hostile environments

Some of our current projects 3 (3)

- Security for the *Smart Grid*
  - The traditional electrical grid is being upgraded to the "smart grid"
  - Several new security challenges, touching both the ICT and EE domain

- Securing the connected car
  - A car consists of 50-100 networked computers.
  - And tomorrow it will be connected to the Internet...

- Security Arena
  - Research and development that aim to improve disaster management and making society better equipped to deal with serious threats and disruptions
  - Cooperation between academia, industry, society and end users

LINDHOLMEN SCIENCE PARK

SECURITY ARENA