

## Charge Topics

1. What are the most important ideas from other fields that we should be trying to integrate into computer security?
  1. Robust Control and dynamic systems
  2. Center for disease control approach / epidemiology
  3. Bio-inspired evolution / self-repairing
  4. Statistical mechanics
  5. Economics theories
  6. Psychology
  7. Sociology
2. Metrics: what are the steps toward more useful metrics?
  1. Broader classes strategies
  2. End of goals methodology
  3. Improved certain security property without hurting others
  4. Challenge problems/program to investigate metrics

## Charge Topics, cont.

3. Formal methods – reducing complexity
  1. Close to the intersection point for hypervisors, should we do this for other things?
  2. What can we do at the limits of formal methods?
    1. Automation
    2. Scalability & complexity of the properties (bug findings vs. absence of bugs)
  3. What can we conclude from it?
    1. Has been successful with other applications – Applying to security systems (type and model checking, etc.)
4. How should we build better adversary models?
  1. Using what we already know
  2. Learning things we need
    1. Accommodating human behavior
    2. Understanding underground economy / marketing

## Charge Topics, cont.

5. Principles: do we have them all, or are there more fundamental principles to discover?
  1. How can we abstract from point solutions into general principles?
  2. How can we conduct experiments to validate principles?
    1. Finding out what principles that are violated caused vulnerabilities
    2. Abstracting new principles from vulnerabilities
6. How should we constraint the space to make problems solvable?
  1. Useful abstract models
  2. Assumptions
    1. Classes of abstractions of interfaces