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# 15 U.S. Code § 7403

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## National Science Foundation research

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### **(a) Computer and network security research grants**

#### **(1) In general**

The Director shall award grants for basic research on innovative approaches to the structure of computer and network hardware and software that are aimed at enhancing computer security. Research areas may include —

- (A) authentication, cryptography, and other secure data communications technology;
  - (B) computer forensics and intrusion detection;
  - (C) reliability of computer and network applications, middleware, operating systems, control systems, and communications infrastructure;
  - (D) privacy and confidentiality;
  - (E) network security architecture, including tools for security administration and analysis;
  - (F) emerging threats;
  - (G) vulnerability assessments and techniques for quantifying risk;
  - (H) remote access and wireless security;
  - (I) enhancement of law enforcement ability to detect, investigate, and prosecute cyber-crimes, including those that involve piracy of intellectual property;
  - (J) secure fundamental protocols that are integral to inter-network communications and data exchange;
  - (K) secure software engineering and software assurance, including—
    - (i) programming languages and systems that include fundamental security features;
    - (ii) portable or reusable code that remains secure when deployed in various environments;
    - (iii) verification and validation technologies to ensure that requirements and specifications have been implemented; and
    - (iv) models for comparison and metrics to assure that required standards have been met;
  - (L) holistic system security that—
    - (i) addresses the building of secure systems from trusted and untrusted components;
    - (ii) proactively reduces vulnerabilities;
    - (iii) addresses insider threats; and
    - (iv) supports privacy in conjunction with improved security;
  - (M) monitoring and detection;
  - (N) mitigation and rapid recovery methods;
  - (O) security of wireless networks and mobile devices;
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(P) security of cloud infrastructure and services;

(Q) security of election-dedicated voting system software and hardware; and

(R) role of the human factor in cybersecurity and the interplay of computers and humans and the physical world.

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