NIST ITL Update
Jim St. Pierre
Acting ITL Director
March 1, 2023
Cultivating Trust in IT and Metrology
Dr. James Olthoff
NIST Chief Metrologist
Director’s Office
NIST Leadership Changes

Dr. Charles H. Romine
Associate Director for Laboratory Programs (transition in late Feb)

Mr. James A. St Pierre
Acting Director, Information Technology Laboratory (transition in late Feb)
NIST Leadership Changes

Dr. Marla L. Dowell
Metrology Program Director,
CHIPS R&D
Boulder Site Director
(transition soon)

Mr. Dereck Orr
Acting Director,
Communications Technology Laboratory
(transition soon)
## CHIPS Act At A Glance

**Creating Helpful Incentives to Produce Semiconductors for America Act**

### CHIPS for America Fund

- **$50 billion allocated over 5 years**

### Financial Incentives Programs

- **$39 billion**

### Research and Development

- **$11 billion**
  - NSTC • APMP • MFG USA Institute(s)
  - NIST Metrology program

### Workforce Development
NIST Wide Critical and Emerging Technologies

BIOTECHNOLOGY
And engineering biology to impact the health, agricultural, and industrial sectors

ARTIFICIAL INTELLIGENCE
Transparent, trustworthy AI and machine learning

CYBERSECURITY AND PRIVACY
To enable the development and deployment of emerging technologies

ENERGY TECHNOLOGIES
Generation, storage, distribution, and secure, climate-friendly, efficient utilization of energy

ADVANCED COMMUNICATIONS
(5G and beyond) and wireless technologies

QUANTUM INFORMATION SCIENCE
Leveraging quantum mechanics for the storage, transmission, manipulation, computing, or measurement of information

National Institute of Standards and Technology
U.S. Department of Commerce
Artificial Intelligence (AI) Update

Rollout of the NIST AI Risk Management Framework (AI RMF) 1.0 & AI RMF Playbook 1.0

In-person launch with Deputy Secretary Graves and Federal, industry leaders

January 26, 2023

3rd U.S./EU Trade & Technology Council (TTC) ministerial at Univ. of Maryland College Park

Joint Roadmap on Evaluation and Measurement Tools for Trustworthy AI and Risk Management

December 5, 2022

Working on the global scale to promote trustworthy AI
Cultivate trust in the design, development, use and governance of artificial intelligence technologies and systems.

- Guidance and Tools
  - AI Risk Management Framework, AI Standards
- Research and development National AI Institute on Trustworthy AI
- Lead and Convene National AI Advisory Committee, TTC, and more.
Journey to Cybersecurity Framework 2.0

- Released CSF 2.0 Concept Paper on 1/19/23)
- Seeking additional input on structure and direction to inform draft CSF 2.0
- Comments requested by 3/3/23
- Hosted second virtual workshop and two in-person working sessions (2/22, 2/23)

https://www.nist.gov/cyberframework
Identity and Access Management

- Issued draft Digital Identity Guidelines suite (SP 800-63-4 DRAFT) for public comment on 12/16/22. Comments due 3/24/23.
- Provides process and technical requirements for meeting digital identity management assurance levels for identity proofing, authentication, and federation.
- Seeks to:
  - Advance Equity
  - Emphasize Optionality and Choice for Consumers
  - Deter Fraud and Advanced Threats
  - Address Implementation Lessons Learned

Encryption Updates:

- FIPS 186-5
- Light Weight Selection
- Multi-Party Threshold Schemes
- Retire the SHA 1 Hash
NCCoE Activities - Examples

Supply Chain Assurance

Hybrid Satellite Networks Cybersecurity

5G Cybersecurity

Migration to PQC

Cybersecurity of Genomic Data

Securing Water and Wastewater Utilities

https://www.nccoe.nist.gov/
New and Emerging Areas of Interest

- Space Cybersecurity
- Automotive Cybersecurity
- Cybersecurity of Genomic Data
- Privacy Enhancing Technologies
- Research Security
- Cybersecurity Measurement
- ...

[Diagram showing the lifecycle phases of a space mission: Design/Development, Prelaunch/Manufacturing, Launch, On Orbit Check Out, Operation, Decommissioning]
2022
Celebrating 75 years of applied math and statistics at NIST

2022
Celebrating 50 years of Cybersecurity research at NIST

On September 29th, ITL launched the NIST Cybersecurity Program History and Timeline

2023
Celebrating 60 years of Biometrics research at NIST
Take A Walk Through Time

NIST Cybersecurity Program History and Timeline

For 50 years, NIST—formerly the National Bureau of Standards (NBS), until 1988—has conducted cybersecurity research and developed cybersecurity guidance for industry, government, and academia. Since 1972, NIST has made extraordinary advancements in cybersecurity, leading the effort to the current state of technology that exists today.

To highlight many of these accomplishments and honor the hard work and dedication by NIST’s cybersecurity staff, NIST has developed the NIST Cybersecurity Program History and Timeline. The timeline provides an overview of the major research projects, programs, and ultimately, NIST’s cybersecurity history.

This history has been compiled by bringing together several sources of information, including written contributions from and interviews with current and former NIST employees, the Annual Reports on cybersecurity produced by NIST starting in 2003, and current and past NIST webpages and publications.

Also see our 50th Anniversary of Cybersecurity at NIST site for events, blogs, and other resources!

August 1979

Automatic Data Processing Risk Analysis Guidance

FIPS 85 described a method for performing risk assessments based on the work of the IBM Corporation’s Robert H. Courtney, Jr.
Some Recognitions

Commerce Medal Awards: Gold/Silver

**Laurie Locascio Elected AAAS Fellow**
Locascio was nominated for her "distinguished leadership of multidisciplinary science and technology programs in government and academia."

**NIST's Information Technology Image Group Were Recognized with the Service and Leadership Award at the 2022 Federal Identity Forum**

**Drs. Kamran Sayrafian and Raghu Kacker named fellows of the Washington Academy of Sciences**