NIST Cybersecurity and Privacy Update
Information Security Privacy Advisory Board

Jim St Pierre
Acting Director, Information Technology Laboratory

National Institute of Standards and Technology
U.S. Department of Commerce

NIST Gaithersburg
March 3, 2021
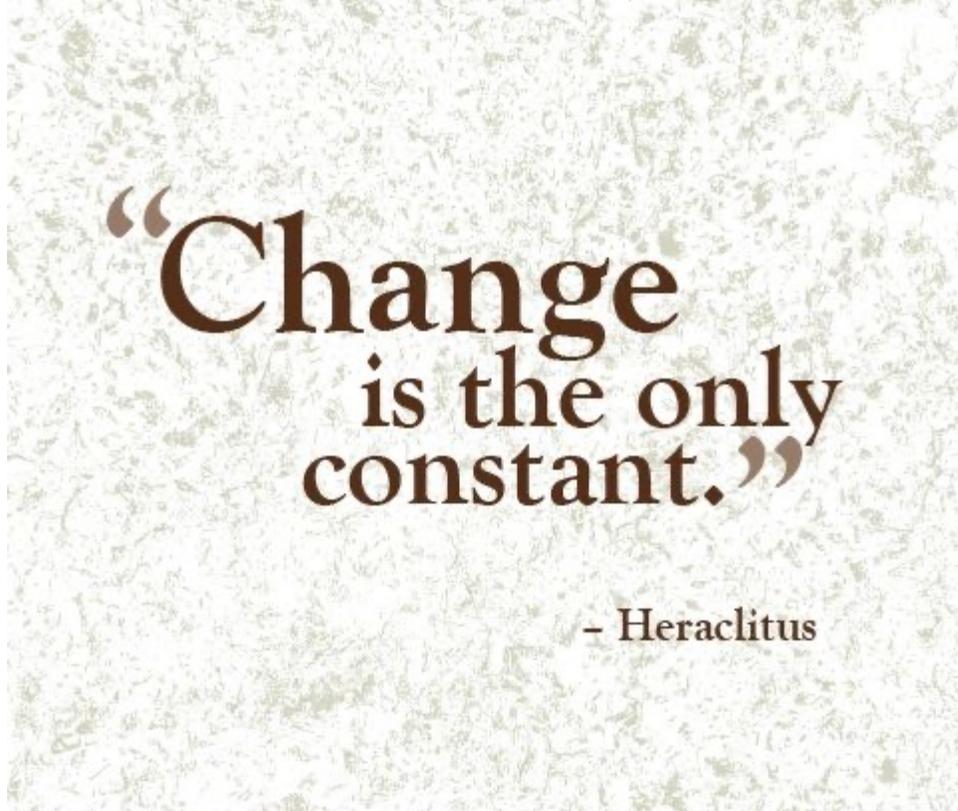
"Change is the only constant."

– Heraclitus

Cultivating Trust in IT and Metrology
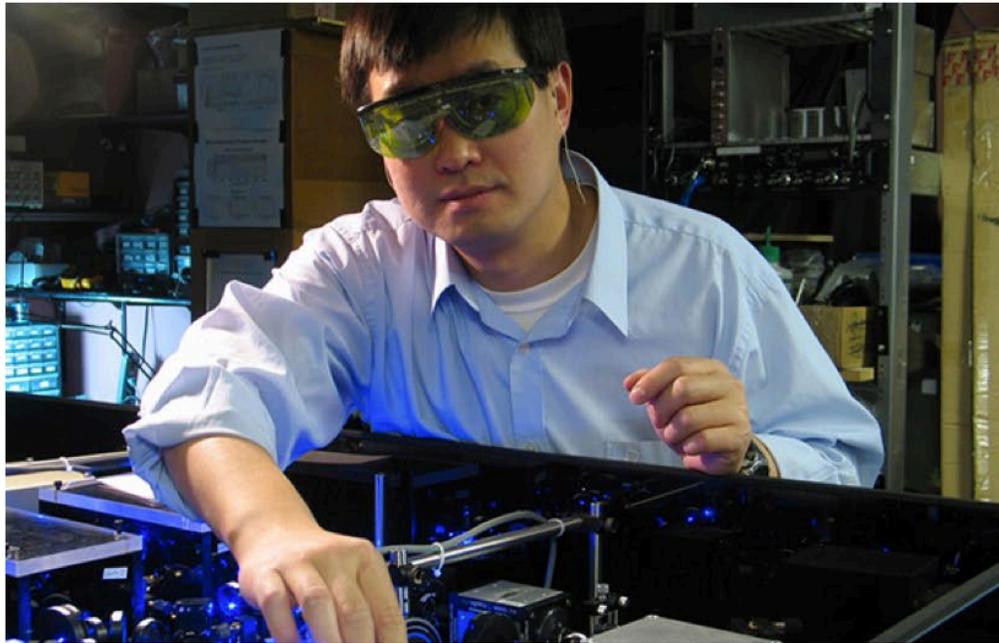
NIST Leadership Changes

Jim Olthoff
Associate Director
performing the nonexclusive
duties of the NIST Director

NIST Leadership Changes

Chuck Romine

Acting Chief-of-Staff

Eric Lin

Acting Associate Director for Laboratory Programs

NIST Leadership Changes

Stephanie Hooker
Acting Director, Material Measurement Laboratory

Joannie Chin
Acting Director, Engineering Laboratory

Jim St. Pierre
Acting Director, Information Technology Laboratory

NIST Budget

NIST is operating under, planning for, and developing budgets for three fiscal years

FY21 Appropriated

FY22 In Development

FY23 Early Stages

NIST Budget

	FY 2020 Enacted	FY 2020 CARES Act P.L. 116-136	FY 2021 Request	FY 2021 House Mark	FY 2021 Senate Mark	FY 2021 Enacted	+/- over FY 2020 Enacted
STRS	**$754.0**	**$6.0**	**$652.0**	**$789.0**	**$786.5**	**$788.0**	**$34.0**
Laboratory Programs	655.8	TBD	591.3	TBD	TBD	TBD	TBD
Corporate Services	17.3	0.0	12.0	TBD	TBD	TBD	TBD
Stds Coord & Special Pgms	80.9 *	TBD	48.7	TBD	TBD	TBD	TBD
ITS	**$162.0**	**$60.0**	**$25.3**	**$170.0**	**$165.5**	**$166.5**	**$4.5**
Hollings Mfg Ext Partnership	146.0	50.0	0.0	153.0	149.5	150.0	4.0
Manufacturing USA	16.0	10.0	25.3	17.0	16.0	16.5	0.5
CRF	**$118.0**	**$0.0**	**$60.2**	**$85.0**	**$98.0**	**$80.0**	**($38.0)**
Construc & Major Renovations	43.0	0.0	19.6	10.0	8.0	TBD	TBD
Saf, Cap, Maint & Maj Repairs	75.0	0.0	40.6	75.0	90.0	TBD	TBD
Total, NIST Discretionary	**1,034.0**	**66.0**	**737.5**	**1,044.0**	**1,050.0**	**1,034.5**	**0.5**

* Includes $2.2M Baldrige Performance Excellence Program funding.

#inclusivelanguage

NIST Technical Series Publications Author Instructions is updated

Phil Venables
@philvenables

...

Kudos to NIST. This is the most comprehensive set of author instructions on the use of inclusive language I've seen.

nist.gov/nist-research-...

Table 1. Examples of potentially biased language in historical NIST Technical Series Publications.

Original	Suggested Edits
Application whitelisting technologies use **whitelists** to control which applications are permitted to execute on a host.	Application control technologies use **allowlists** to control which applications are permitted to execute on a host.
This is critical to various aspects of security, including the **black list** of certificates pushed by the product vendors.	This is critical to various aspects of security, including the **denylisting** of certificates pushed by the product vendors.
Moreover, affected individuals can be subject to embarrassment, identity theft, or **blackmail** as the result of a breach involving PII.	Moreover, affected individuals can be subject to embarrassment, identity theft, or **extortion** as the result of a breach involving PII.
We know that most merchants are honest, but **among them are some black sheep**, if we may believe the Philadelphia exhibit.	We know that most merchants are honest, but **some are disreputable**, if we may believe the Philadelphia exhibit.
However, if particular countries passports were known to be used with low-thresholds, we'd expect genesis of a **black-market** for stolen credentials in those places.	However, if particular countries passports were known to be used with low-thresholds, we'd expect genesis of **illegal marketplaces** for stolen credentials in those places.

NIST participates at the ANSI virtual Technical Advisory Group to ISO/IEC Joint Strategic Advisory Groupon Gender Responsive Standards

U.S. STAKEHOLDERS FOR JOINT STRATEGIC ADVISORY GROUP (JSAG) ON GENDER RESPONSIVE STANDARDS SOUGHT

3/23/2020

ANSI News

Privacy Framework: One-Year Anniversary

NIST

One-year anniversary of the NIST Privacy Framework release on January 16th, 2021

31,000 downloads and climbing – more than 40 implementation resources available online

More than a quarter of respondents to International Association of Privacy Professionals and FairWarning survey use the Framework

Credit: Shutterstock

Cybersecurity, Privacy, and AI Noteworthy Releases

NIST
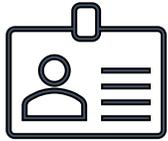
Draft FIPS 201-3, Personal Identity Verification (PIV) of Federal Employees and Contractors

DevSecOps and Zero Trust Architecture for Multi-Cloud Environments Virtual Conference January 27th, 2021

Updated USGv6 Program in Support of New Federal IPv6 Initiatives

Draft NISTIR 8312, Four Principles of Explainable Artificial Intelligence

Began validating cryptographic modules to FIPS 140-3, Security Requirements for Cryptographic Modules

Supplemental Materials for SP 800-53 Rev 5, Security and Privacy Controls for Information Systems and Organizations

ISO/IEC TS 27110:2021
Information technology, cybersecurity and privacy protection — Cybersecurity framework development guidelines

https://www.iso.org/standard/72435.html

Internet of Things (IoT) Device Cybersecurity

Credit: Shutterstock

Four new NIST publications provide draft IoT cybersecurity guidance for federal agencies and IoT device designers

Guidance will help address challenges raised in the *IoT Cybersecurity Improvement Act of 2020*

SolarWinds Cybersecurity Breach

Credit: Pixabay

Highly sophisticated cyberattack and data breach: 1,000s of organizations affected globally, including U.S. Federal Government
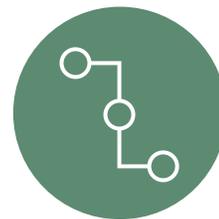
Supply chain attack demonstrates need for strong trust roots in IT and foundational cybersecurity, such as trusted software updates and digital signatures

Executive Order 13905: Responsible Use of Positioning, Navigation, and Timing Services (PNT)

Using an open and collaborative process, NIST **developed a foundational PNT profile** to help organizations make deliberate, risk-informed decisions on their use of PNT services and will **offer a time service over optical fiber lines** as an alternate source of precision time.

NISTIR 8323 *Applying the Cybersecurity Framework for the Responsible Use of Positioning, Navigation, and Timing (PNT) Services (February 2021)*

Time Over Fiber calibration service operational

https://www.nist.gov/itl/pnt

Updates on NIST work in encryption

NIST

Credit: E. Edwards/JQI
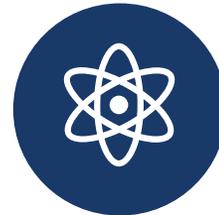
Post Quantum Cryptography
Round Three Selections completed.

Lightweight Encryption
The Fourth Lightweight Cryptography Workshop (virtual) on October 19-21, 2020.

Trustworthy AI Updates

NIST is developing the vocabulary and measurements needed for technical requirements of trustworthy AI

Bias in AI report in Spring 2021

TREC Fair Ranking track will investigate Bias in AI

Planning an international campaign to coordinate efforts in AI standards development with OSTP

900 participants from **24** countries at NIST's workshop to discuss this component of trustworthy AI

Credit: Phonlamai Photo/shutterstock.com

December 2-4, 2020

Hosted by the National Science and Technology Council (NSTC)

Subcommittee on Advanced Manufacturing and

Subcommittee on Machine Learning and Artificial Intelligence

Face recognition software shows improvement in recognizing masked faces
NIST analyzed 65 algorithms newly submitted by developers
Used image database of 6.2 million images with masks digitally applied
In some cases, error rates decreased by a factor of 10

Credit: B. Hayes, M. Ngan/NIST

NISTIR 8311 - Face Recognition Accuracy with Face Masks Using Pre-COVID-19 Algorithms (Jul 2020)

NISTIR 8331 - Ongoing Face Recognition Vendor Test (FRVT) Part 6B: Face Recognition Accuracy with Face Masks Using Post-COVID-19 Algorithms (Nov 2020)

2022
Celebrating 50 years
of Cybersecurity research at NIST

DISCUSSION