ForSciPub:
A Vision for the Future of Forensic Science Literature

Melissa Taylor

Forensic Science Research Manager, Special Programs Office
National Institute of Standards and Technology

Why do I care about this topic?

- NIJ
  - Technical Writer
  - General Forensic Program Manager

- Standardization II Committee Member

- SoFS Member

- Research Manager at NIST

TIME

THE WEEKLY NEWSMAGAZINE

VANNEVAR BUSH: GENERAL OF PHYSICS
In this war, Science is G.I.
(Science)

"Science... has provided **a record of ideas** and has enabled man to manipulate and to make extracts from that record so that knowledge evolves and endures **throughout the life of a race** rather than that of an individual."

- Vannevar Bush

Information is everywhere!

Forensic Science Information

Knowledge & Practice

- Journal articles
- Data
- Scientific Presentations
- Newsletters/Circulars
- Conference Proceedings
- Research Reports
- Standards and Best Practices
- Miscellaneous

- Gap Analysis
- Trends
- New Research Questions
- New Methods

Forensic Bibliographic Database
Compiled by scientists for scientists

LOST with FSS closure in 2012

- FORS® is a bibliographic database which contains almost 100,000 records featuring abstracts of scientific papers, conference proceedings, books, technical reports and government publications.

- FORS was started in 1969 by the UK Home Office Central Research Establishment.

- The FORS® database is multidisciplinary and covers literature relevant to the examination of evidential materials, analytical methods and the presentation of findings.

- The database routinely scans a core list of about 150 journals published worldwide, together with any references obtained to assist in Forensic casework are included in the database.

ForSciPubs
FORENSIC SCIENCE PUBLICATIONS

ARCHIVE. Keep a central archive of research publications and standards related to the forensic sciences, preserving vital forensic science research results and information for years to come.

PROVIDE ACCESS. Provide electronic access to this comprehensive compendium of literature related to the forensic sciences for to better inform forensic scientists, students, legal professionals, law enforcement, academics, and the general public.

ADVANCE SCIENCE. Create an information resource for scientists and technology developers to help advance knowledge and improve forensic science practice.

The ability to consult works of reference is the foundation of scholarship

Where do we begin?

Latent Print Examination and Human Factors:
Improving the Practice through a Systems Approach

The Report of the Expert Working Group on Human Factors in Latent Print Analysis

February 2012

The Report of the International Association for Identification,

Standardization II Committee

September 30, 2010

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

We wanted to create a comprehensive list of fingerprint-related articles

Outreach to Academic Institutions

Contacted the following academic institutions to access potential journals, department publications, professor resources, and library resources:

1. Albany State University
2. Arcadia University
3. Boston University School of Medicine
4. California State University at Los Angeles
5. Cedar Crest College
6. Duquesne University
7. Eastern Kentucky University
8. Florida International University
9. George Washington University
10. Indiana University Purdue University
11. Laurentian University
12. Loyola University at Chicago
13. Marshall University
14. Metropolitan State University of Denver
15. Michigan State University
16. Nebraska Wesleyan University
17. Ohio University
18. Oklahoma State University
19. Sam Houston State University
20. Stevenson University
21. Texas A&M University
22. Texas Tech University
23. The Pennsylvania State University
24. Towson University
25. University at Albany (SUNY)
26. Université de Lausanne*
27. University of Alabama at Birmingham
28. University of California at Davis
29. University of California-Berkeley
30. University of Central Florida
31. University of Illinois at Chicago
32. University of Mississippi
33. University of Nebraska-Lincoln
34. University of New Haven
35. University of North Texas
36. University of North Texas Health Science Center at Fort Worth
37. Virginia Commonwealth University
38. West Virginia University

* Provided 6000+ references across several forensic disciplines

Outreach to Topical Databases

Contacted the following topic-specific databases for bulk uploads or pulled resources from the database: Academic OneFile, Gale Cengage Learning

- Academic Search Complete, EBSCO
- Anglia Ruskin University database
- BioOne
- Catalog of U.S. Government Publications
- Defense Technical Information Center (DTIC), U.S. Department of Defense
- Federal Library and Information Network (FedLink), Library of Congress
- FORS, data held by the UK Home Office
- HighWire, Stanford University
- National Clearinghouse for Science, Technology and the Law (NCSTL), Stetson University
- National Institute of Justice Topical Collection: Forensic Science
- National Technical Information Service (NTIS), U.S. Department of Commerce
- Public Library of Science (PLOS)
- Web of Science, run by Thomson Reuters

Outreach to Publishers

Contacted the following publishers for bulk citation uploads or other resources:

- CRC Press
- Elsevier
- John Wiley & Sons
- Jones & Bartlett
- LawTech Custom
- National Academies Press
- Pearson
- Routledge
- Sage Publications
- Thomson Reuters

Taxonomy Development Process

See https://prezi.com/aqbiuzefcw-z/copy-of-fsd-taxonomy/

CITATION ADMINISTRATION

Review the citation, then use the action buttons to approve, reject, or mark as relevant to another domain.

If you want to add keywords to the citation *(optional)*, use the **Keywords** popup checklist before taking action on

Approve	Reject	Relevant to Another Domain

Reference Type	**Conference Paper**
Title	**Application of method for getting direction image based on gradient in fingerprint preprocessing**
Year	**2011**
Date	**June**
Author	L. Jing, M. Jian-min and W. Xinhui
Keywords	*Identification, Fingerprint, Development, Paper, Quality, Digital Images, Wrinkle*
Abstract	The fingerprint image preprocessing is the premise and basis for fingerprint identification. It will directly influence the final outcome of fingerprint identification. In order to maintain and restore fingerprint ridge structures, and improve the noise immunity of fingerprint image preprocessing algorithm. In the paper, a method for getting direction image based on gradient is given. Using direction information of fingerprint image, we execute a sequence of operations, such as: image enhancement, binarization, thinning, and a more accurate linear graph is obtained. This method which is proposed in process of fingerprint preprocessing can effectively improve the quality of fingerprint ridge and can obviously restrain all kinds of noises. The experiment result shows that the method achieves the desired result.
Journal	
Publisher	IEEE
URL	http://ieeexplore.ieee.org/Xplore/guesthome.jsp
Document	
Notes	This source is not available in full online. The URL directs to the source hosting site. If you have access that you would like to share, please contact the ForSciPubs administrators.

ForSciPubs.gov

FORENSIC SCIENCE PUBLICATIONS

Return

KEYWORDS POPUP CHECKLIST

Add keywords in the input box (separated by a comma), or use the scroll list to check keywords, then click RETURN to take action on the citation.

- [ ] **Forensic Laboratory**
- [ ] Access Control
  - [ ] Accreditation
    - [ ] Accreditation Standard
    - [ ] ASCLD/LAB
    - [ ] ILAC
  - [ ] Budgets
  - [ ] Certification
    - [ ] Proficiency Test
      - [ ] Blind Proficiency Test
- [ ] Error Analysis
  - [ ] Guidelines and Best Practices
    - [ ] ANSI/NIST Standard
    - [ ] GLP
    - [ ] ISO
    - [ ] Quality Assurance
    - [ ] Quality Control
- [ ] Health and Safety

Finding Hidden Gems

23 Fingertip Model for Blood Flow and Temperature

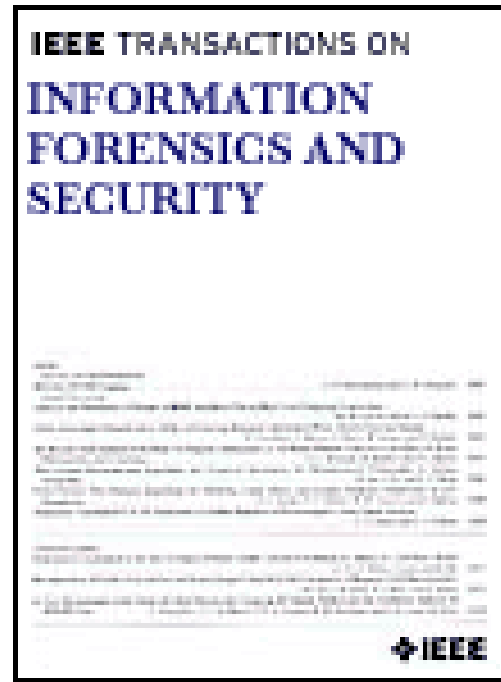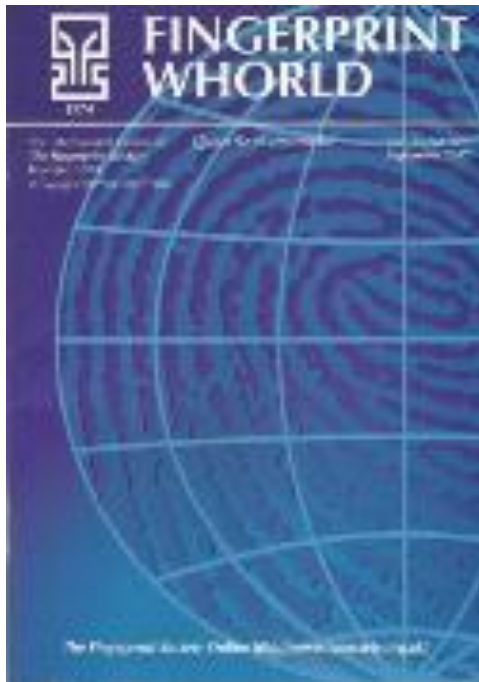Ying He, Hongwei Shao, Yuanliang Tang, Irina Mizeva, and Hengdi Zhang

Progress to date

- Collected more than 7,000 citations related to fingerprint analysis
  - Journal articles, guidance and advice, circulars, reports, conference proceedings, research reports, standards, and codes of practice from worldwide sources
- Developed robust taxonomy for fingerprint-related sources which consists of:
  - 325 standard vocabulary keywords
  - 182 synonyms
- Established Taxonomy Working Group of forensic subject-matter experts, web developers, and forensic students to review and contribute to the draft taxonomy
- Developed automatic tagging of citations with standard vocabulary keywords
- Created a module for SMEs to approve content and tag new keywords

Was it worth it?

Comparing ForSciPubs collection of fingerprint articles to PMC, NCJRS, and ScienceDirect
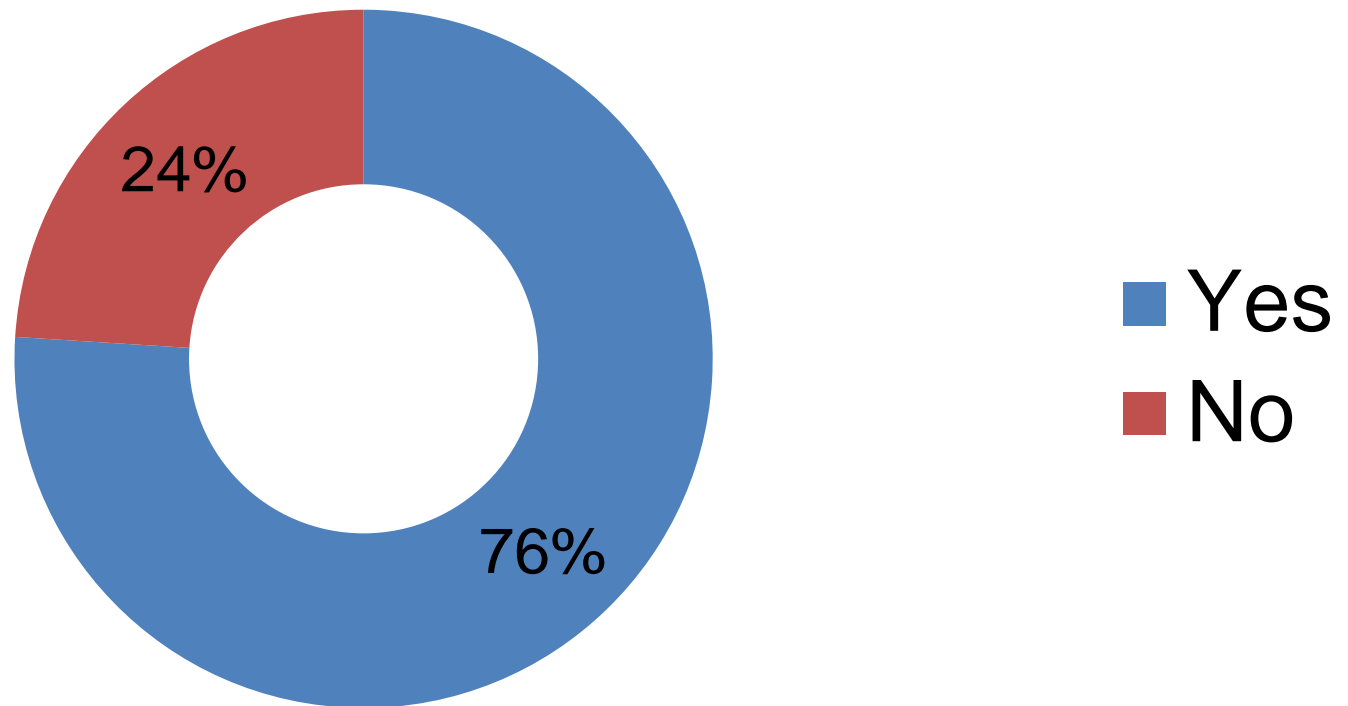
ForSciPubs collection included more relevant journals

Was it worth it?

Comparing ForSciPubs to Google Scholar
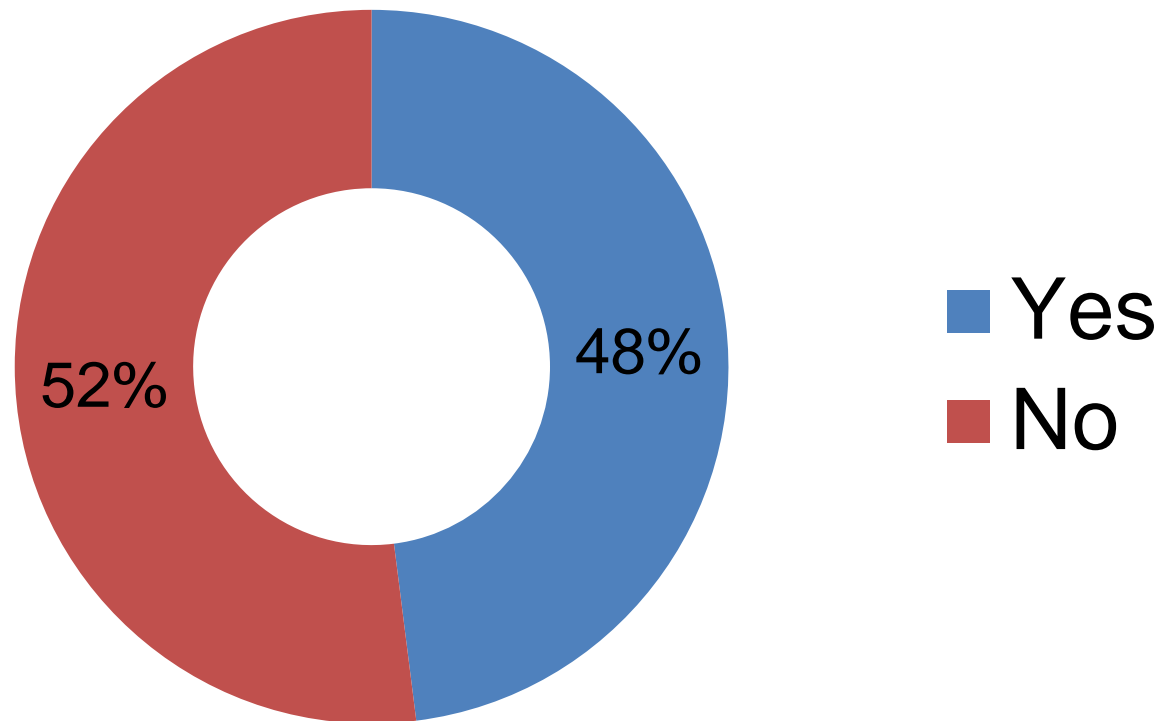
Found when searched for title in quotes

24%

76%

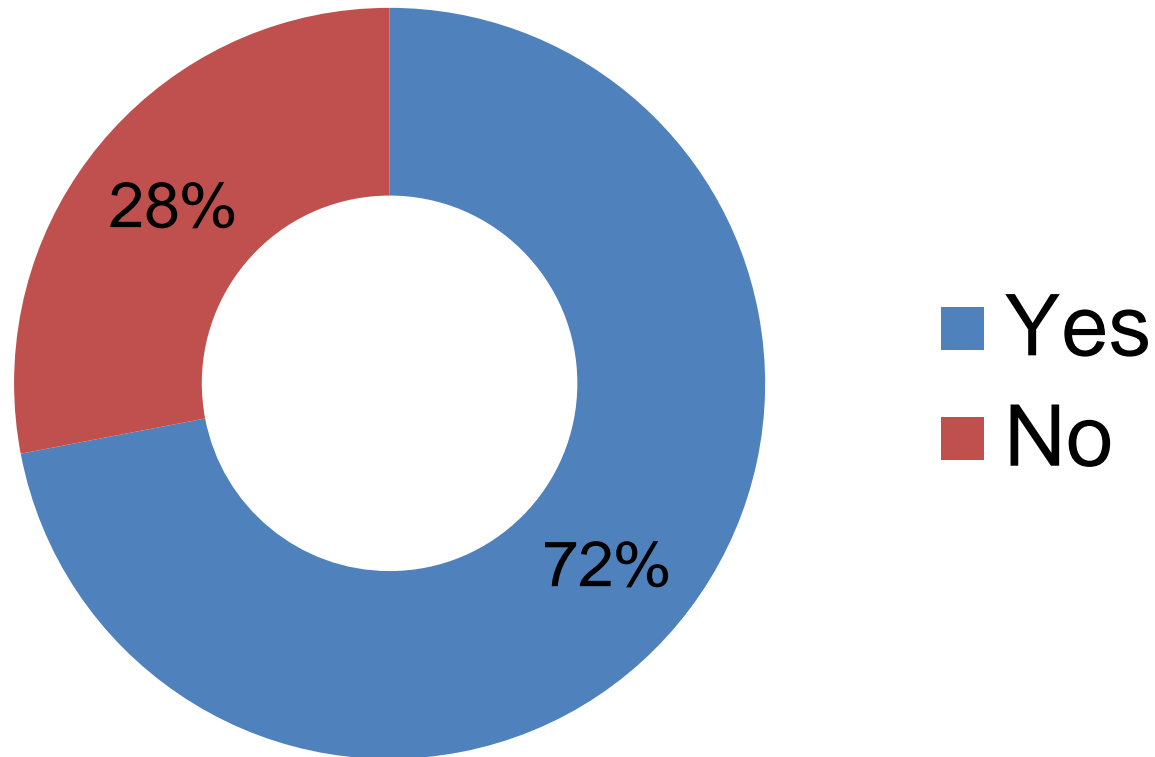Yes

No

Was it worth it?

Comparing ForSciPubs to Google Scholar

Found when searched for author(s) name
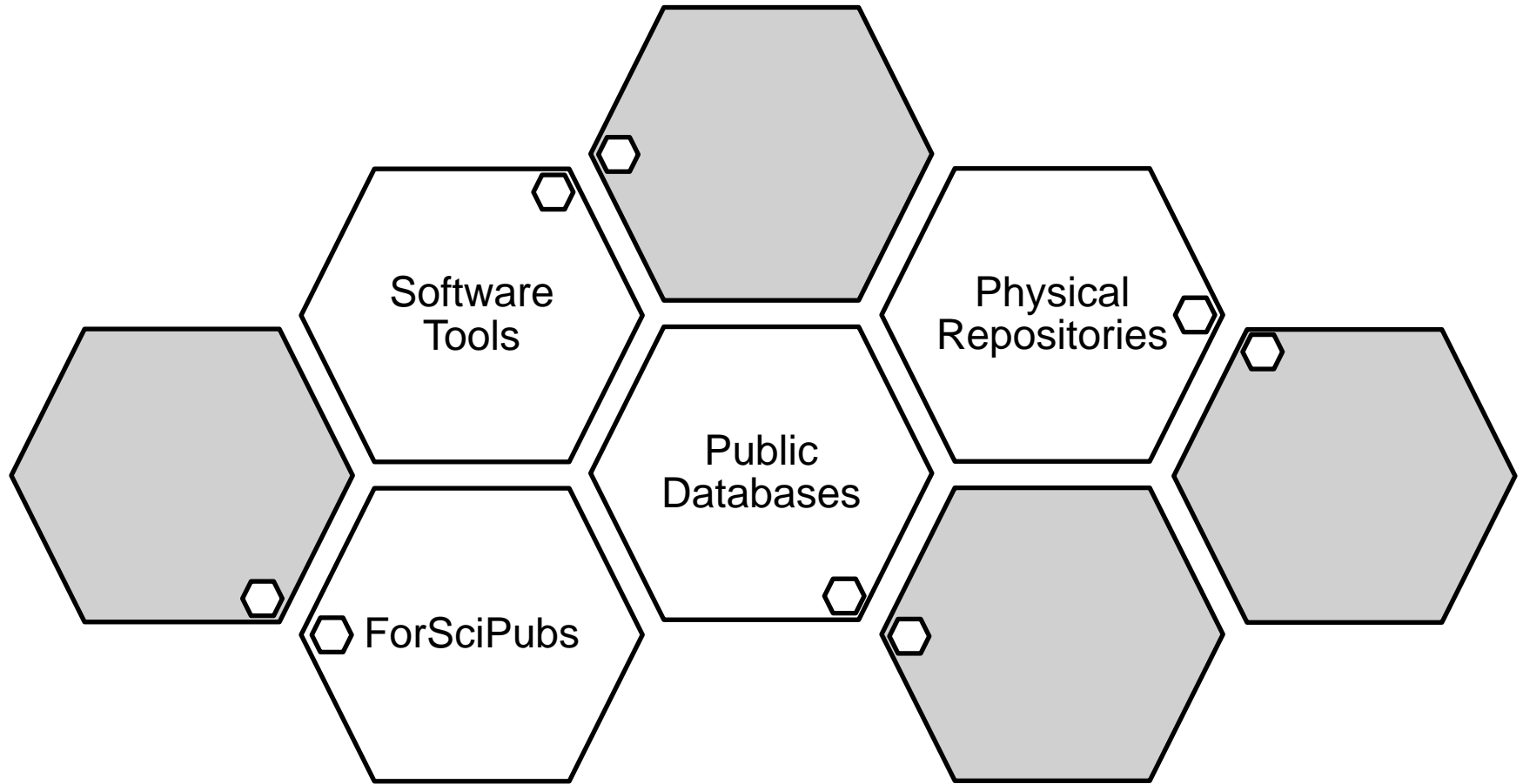

48% — Yes
52% — No

Was it worth it?

Comparing ForSciPubs to Google Scholar

**Found when searched for author(s)
name and title**

The Community would benefit from a
National Center for Forensic Science Information

Software Tools

Physical Repositories

Public Databases

ForSciPubs

where ForSciPubs concept could be a part of the solution…

My Overall Summary Thoughts

ARCHIVE. Keep a central archive of research publications and standards related to the forensic sciences, preserving vital forensic science research results and information for years to come.

PROVIDE ACCESS. Provide electronic access to this comprehensive compendium of literature related to the forensic sciences for to better inform forensic scientists, students, legal professionals, law enforcement, academics, and the general public.

ADVANCE SCIENCE. Create an information resource for scientists and technology developers to help advance knowledge and improve forensic science practice.

The ability to consult works of reference is the foundation of scholarship

Thank you for your attention!

- Acknowledgments:
  - Funding from NIST Special Programs Office Forensic Science Program

Contact info:

melissa.taylor@nist.gov

301-975-6363

A copy of this presentation will be made available at:
http://www.cstl.nist.gov/strbase/NISTpub.htm

FORENSIC SCIENCES

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

iSO
INFORMATION
SERVICES
OFFICE

WASHINGTON STATE PATROL