


Topics and Techniques for Forensic DNA Analysis

Introductions

Florida Statewide Training Meeting

Indian Rocks Beach, FL
May 12-13, 2008




NIST

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NIST History and Mission

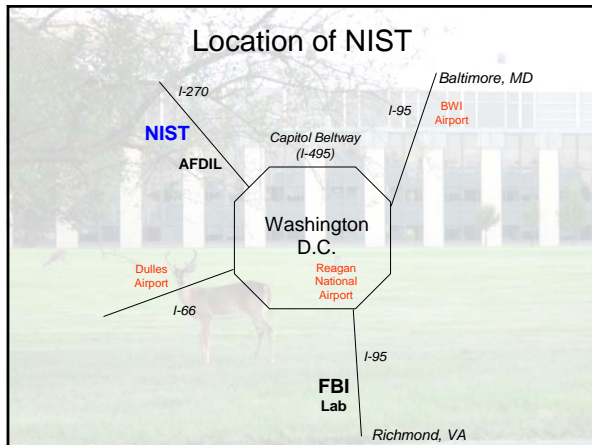
- National Institute of Standards and Technology (NIST) was created in 1901 as the National Bureau of Standards (NBS). The name was changed to NIST in 1988.
- NIST is part of the U.S. Department of Commerce with a mission to develop and promote measurement, standards, and technology to enhance productivity, facilitate trade, and improve the quality of life.
- NIST supplies over 1,300 Standard Reference Materials (SRMs) for industry, academia, and government use in calibration of measurements.
- NIST defines time for the U.S.**




\$603 for 3 jars





DNA typing standard





NIST Human Identity Project Team



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Medical School


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Air Force


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Retired/ABI



National Institute of Justice
The Research, Development, and Evaluation Agency of the U.S. Department of Justice


Current Areas of NIST Effort with Forensic DNA

- Standards**
 - Standard Reference Materials
 - Standard Information Resources (STRBase website)
 - Interlaboratory Studies
- Technology**
 - Research programs in SNPs, miniSTRs, Y-STRs, mtDNA, qPCR
 - Assay and software development, expert system review
- Training Materials**
 - Review articles and workshops on STRs, CE, validation
 - PowerPoint and pdf files available for download

<http://www.cstl.nist.gov/biotech/strbase/NIJprojects.htm>




Training Materials Available on STRBase

<http://www.cstl.nist.gov/biotech/strbase/training.htm>



The screenshot shows a web browser window with the URL <http://www.cstl.nist.gov/biotech/strbase/training.htm>. The page title is "STR Training Materials". A red arrow points to a link: "PowerPoint slides for figures from *Forensic DNA Typing* (2nd Edition) [181 slides, 8.72 Mb file]". Below this, there is a list of "PowerPoint Presentations and Slide Shows" including "Background Information (20 slides)", "STR Technology (12 slides)", "Y-Chromosome STRs (40 slides)", "STR 2002, 2nd Edition (21 slides)", "Training on STR Typing Using Commercial Kits and ABI 3100/3130", and "John Butler and Bruce McCord workshop at the American Academy of Forensic Sciences (Seattle, WA) February 20, 2006".

Contributors to These Workshop Slides

		
Bruce McCord	Mike Coble	Angie Dolph
Florida International University	AFDIL	Marshall U./ NIST
CE	miniSTRs	mixtures

Forensic Science International: Genetics

<http://www.fsigenetics.com/>



Editor-in-Chief:
Angel Carracedo (Spain)
Associate Editors:
Peter M. Schneider (Germany)
John M. Butler (USA)

FSI: Genetics is a new journal dedicated exclusively to the field of forensic genetics. It has been launched in 2007 by Elsevier Publishers in affiliation with the International Society of Forensic Genetics. **All members of the ISFG receive a free subscription of this journal** (print and online version) as part of their membership benefits.

We need your help as good reviewers and authors

Primary Sources for Material Covered in this Workshop

- Butler, J.M., Buel, E., Crivellente, F., and McCord, B.R. (2004) Forensic DNA typing by capillary electrophoresis using the ABI Prism 310 and 3100 genetic analyzers for STR analysis. *Electrophoresis* 25: 1397-1412
- Butler, J.M. (2006) Genetics and genomics of core STR loci used in human identity testing. *J. Forensic Sci.* 51(2): 253-265
- McCord, B. (2003) Troubleshooting capillary electrophoresis systems. *Profiles in DNA* 6(2): 10-12 (Promega Corporation); available at http://www.promega.com/profiles/602/ProfilesInDNA_602_10.pdf
- Butler, J.M. (2005) *Forensic DNA Typing, 2nd Edition: Biology, Technology, and Genetics of STR Markers*. Elsevier Science/Academic Press
- NIST STRBase website: <http://www.cstl.nist.gov/biotech/strbase/>

These workshop materials will be made available at <http://www.cstl.nist.gov/biotech/strbase/training.htm>

Outline for Workshop

Day 1	Day 2
<ul style="list-style-type: none"> STRs and Artifacts miniSTRs CE Troubleshooting 	<ul style="list-style-type: none"> Mixture Interpretation Mixture Examples
LUNCH	LUNCH
<ul style="list-style-type: none"> Dawn Herkenham (Legal Issues) 	<ul style="list-style-type: none"> Mixture Stats Interlab Studies Company presentations

My Goal is to Answer YOUR Questions – So Please Ask Them...

Understanding the Audience Here

- Where is everyone from?
 - State lab?
 - Local lab?
 - Private lab?
- Experience level?
 - Less than 1 year?
 - 1-3 years?
 - >3 years?
- STR kits in use?
 - Profiler Plus/COfiler
 - Identifiler
 - PowerPlex 16
 - Y-STRs?
- Instrumentation is use?
 - ABI 310
 - ABI 3100/3130xl
 - Other?
- Software in use?
 - GeneScan/Genotyper
 - GeneMapperID
 - Other?

NIST and NIJ Disclaimer

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Points of view are mine and do not necessarily represent the official position or policies of the US Department of Justice or the National Institute of Standards and Technology.

Certain commercial equipment, instruments and materials are identified in order to specify experimental procedures as completely as possible. In no case does such identification imply a recommendation or endorsement by the National Institute of Standards and Technology nor does it imply that any of the materials, instruments or equipment identified are necessarily the best available for the purpose.

Our publications and presentations are made available at: <http://www.cstl.nist.gov/biotech/strbase/NISTpub.htm>