

Forensic Science

Research, Development, Testing & Evaluation

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Path to RDT&E Success

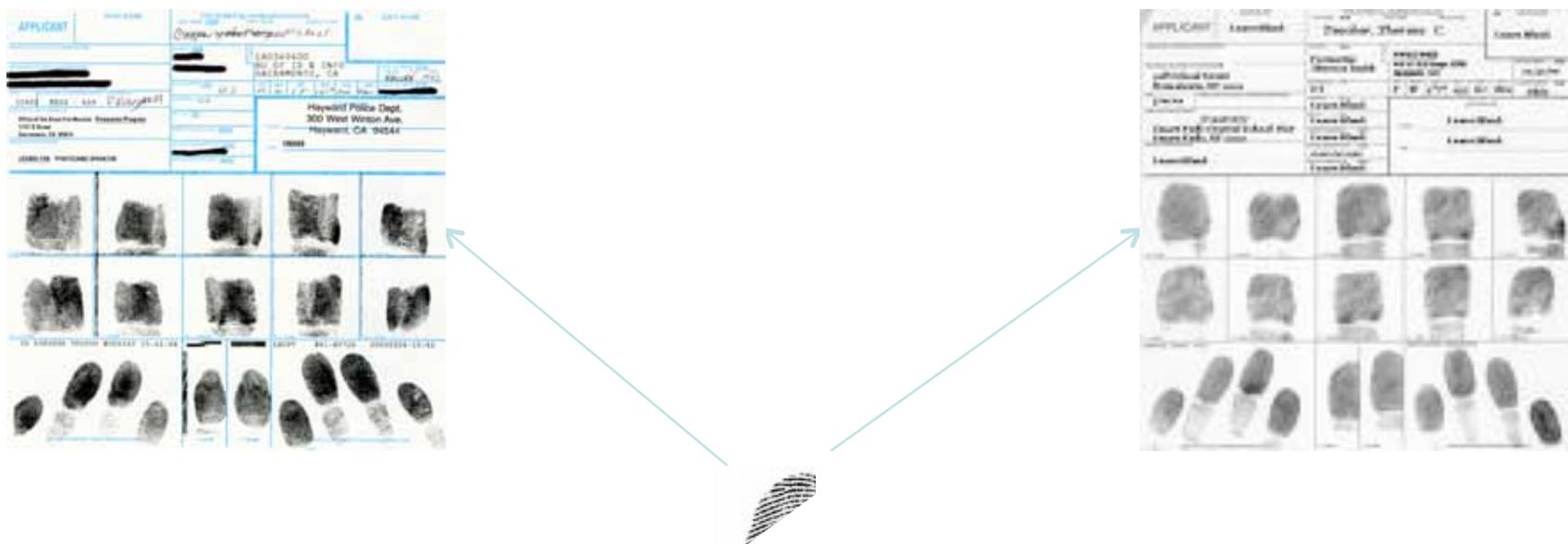
- Identify and prioritize research needs
- Catalog current and future plans
- Conduct a gap analysis
- Identify costs associated with RDT&E
- Identify research facilities

Coordination/Collaboration

Identify and Prioritize Needs

- Recommendation 3 – NAS Report
 - Establish validity of forensic methods
 - Determine estimates of uncertainty
 - Develop measures of reliability and accuracy
- Recommendation 5 – NAS Report
 - Investigate human observer bias
 - Identify sources of human error
 - Develop model protocols to minimize these errors
- Better, Cheaper, Faster (Recommendation 12 – NAS Report)
- Recommendation 10 – NAS Report
 - Support graduate education programs/fellowships
 - Emphasize multidisciplinary fields
 - Support continuing legal education programs

Recommendation 3 – NAS Report



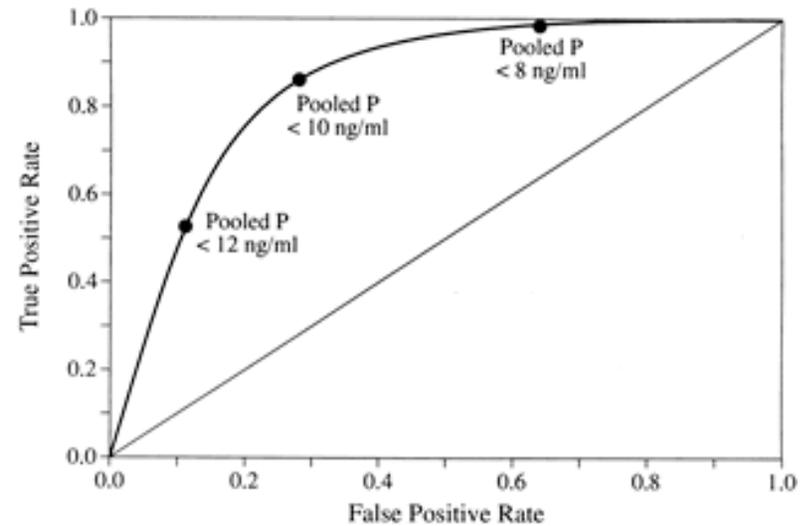
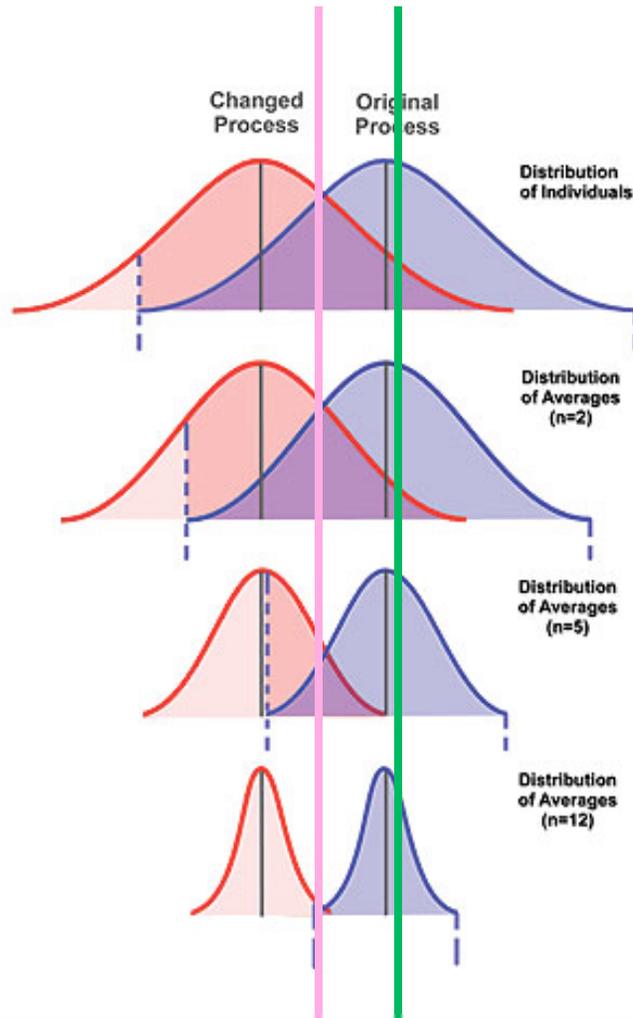
Peer-reviewed research on the scientific basis & validity

Recommendation 3 – NAS Report



Peer-reviewed research on uncertainty, accuracy and reliability

Recommendation 3 – NAS Report



Peer-reviewed research on uncertainty, accuracy and reliability

Recommendation 5 – NAS Report

“Extra-domain Information”

Peer-reviewed research on human observer bias

Recommendation 5 – NAS Report

“Extra-domain Information”

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Peer-reviewed research on human observer bias

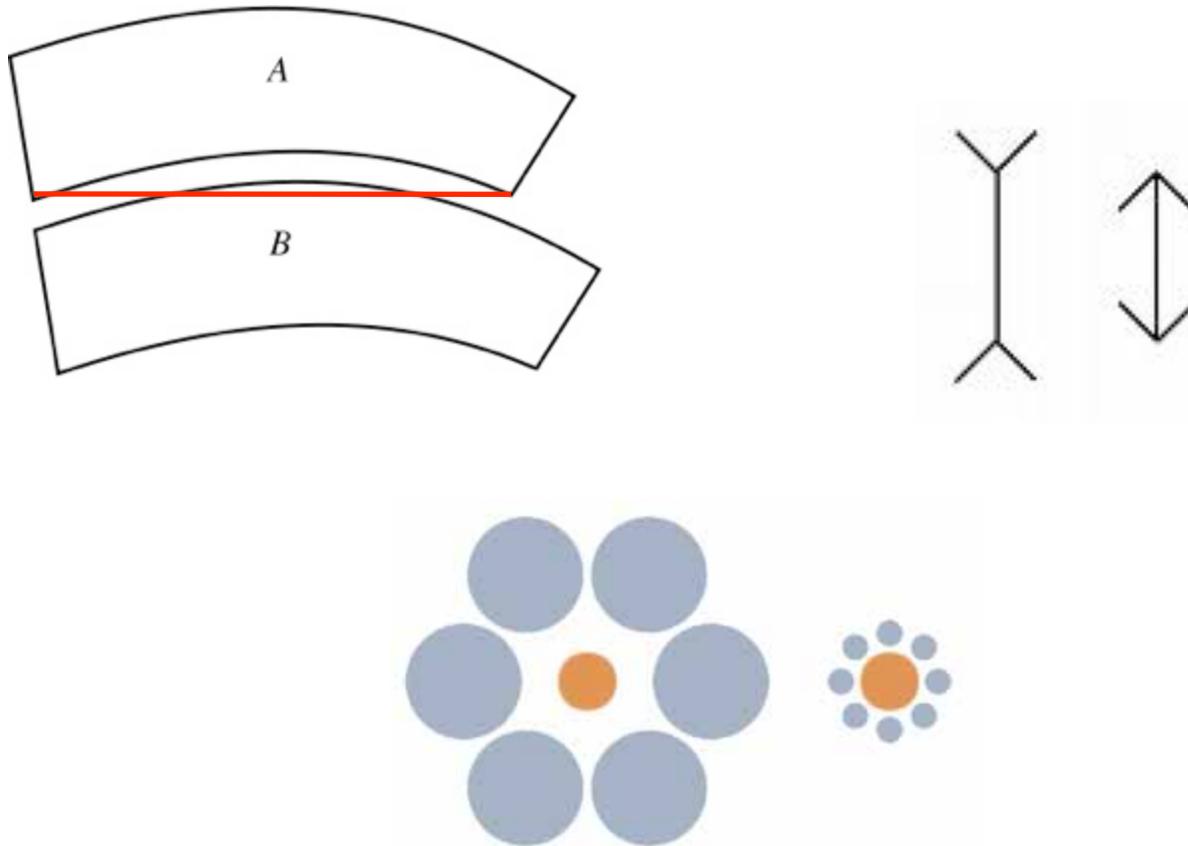
Recommendation 5 – NAS Report

“Extra-domain Information”

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Peer-reviewed research on human observer bias

Recommendation 5 – NAS Report



Peer-reviewed research on the sources of human error

Better, Faster, Cheaper



Catalog Current and Future Plans

- Top-down
- Formally Approved
- Initial Concept
- Bottom-up

Conduct a Gap Analysis

- Establish prioritized research
- Determine ability of current/future plans to meet needs
- Recognize overlaps in planned research
- Reallocate resources to support underfunded research
- Discover real gaps – under-funded prioritized research

Desired Research - Current Research = Research Gap

Identify Costs Associated with RDT&E

- Opportunity
- Personnel
- Equipment
- Supplies
- Travel
- Consultant/Contract fees
- Other

Identify Research Facilities

- Identify existing facilities for R&D
 - Federal
 - State
 - Local
 - Academic
 - Private agencies
- Identify facilities for T&E
 - Forensic Laboratories
 - Investigative & Law Enforcement Organizations
 - Military

Path to RDT&E Success

- ✓ Identify and prioritize research needs
- ✓ Catalog current and future plans
- ✓ Conduct a gap analysis
- ✓ Identify costs associated with RDT&E
- ✓ Identify research facilities

Coordination/Collaboration

Coordination

- Internal – NSTC COS Subcommittee on Forensic Science
- External – Forensic Science, Academic and S&T Communities
 - Leverage existing specialties
 - Involve graduate students from multi-disciplines
 - Collaborate with Centers of Excellence
- Capture the needs of the S&L forensic community
- Transition deliverables into practice (training, maintenance, SOP development, etc)

IWG – RDT&E Team

- Fingerprint Examination
- Firearms and Tool Marks
- Forensic Anthropology
- Forensic Chemistry
- Forensic Document Examination
- Forensic Engineering
- Forensic Fire Investigation
- Forensic Genetics
- Forensic Pathology
- Forensic Speaker Recognition
- Laboratory Managers
- Nuclear Science
- R&D Program Managers
- Research Scientists
- Toxicology
- Trace Evidence Analysis

Representatives from various disciplines

National Science and Technology Council
Committee on Science
Subcommittee on Forensic Science

*Interagency Working Group – Research,
Development, Testing & Evaluation*

Jeff Salyards – IWG Team Member