The Future of Forensic Science: The Impact of the National Academy of Sciences Report

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National Institute of Justice

- Research, development and evaluation arm of the Department of Justice
  - Title II of the Homeland Security Act as it relates to NIJ's Office of Science & Technology
- Advances scientific research, development, and evaluation
  - to enhance the criminal justice system
  - to increase public safety
- Emphasis on State and local practitioner needs
- Committed to scientific process of open competition, peer-reviewed, published reports and archived data
Office of Science & Technology

- Principal authority derived from the Homeland Security Act of 2002
  - Lead agency in the U.S. for work in criminal justice technology
    - Law enforcement, corrections, investigative and forensic, judicial process
    - Coordinate the Federal approach to Criminal Justice technology issues
  - Conduct research, development, test and evaluation (RDT&E)
    - Leading to adoption of improved tools and technologies into practice
  - Establish and maintain advisory groups to assess criminal justice technology needs
  - Establish and maintain performance standards and a compliance testing program
  - Provide technology assistance
- Executes the DNA Initiative
Background

• Congress called for the creation of an independent forensic science committee at the National Academy of Sciences (NAS) to identify the needs of the forensic science community

• The project was funded by NIJ (08/2006 through 06/2009)

• A committee was tasked with the following objectives
Objectives

1. Assess the present and future resource needs of the forensic science community
2. Make recommendations for maximizing the use of forensic technologies and techniques to solve crimes
3. Identify potential scientific advances that may assist law enforcement
4. Make recommendations for programs that will increase the number of qualified forensic scientists and medical examiners
Objectives

5. Disseminate best practices and guidelines concerning the collection and analysis of forensic evidence
6. Examine the role of the forensic community in the homeland security mission
7. Examine the interoperability of Automated Fingerprint Information Systems (AFIS)
8. Examine additional issues pertaining to forensic science as determined by the committee
Committee Membership

Judge Harry T. Edwards - (Co-Chair)  
U.S. Court of Appeals for the District of Columbia Circuit

Dr. Constantine Gatsonis - (Co-Chair)  
Brown University

Ms. Margaret A. Berger  
Brooklyn Law School

Dr. Joe S. Cecil  
The Federal Judicial Center

Dr. M. Bonner Denton  
University of Arizona

Dr. Marcella Fierro  
Office of the Chief Medical Examiner of Virginia

Dr. Karen Kafadar  
University of Colorado at Denver

Mr. Peter M. Marone  
Virginia Department of Forensic Science

Mr. Geoffrey Mearns  
Cleveland State University

Dr. Randall S. Murch  
Virginia Polytechnic Institute and State University

Dr. Channing R. Robertson  
Stanford University

Mr. Marvin Schecter  
Private Practice

Dr. Robert C. Shaler  
Pennsylvania State University

Dr. Jay A. Siegel  
Indiana University-Purdue University at Indianapolis

Dr. Sargur N. Srihar  
State University of New York at Buffalo

Dr. Sheldon M. Wiederhorn  
National Institute of Standards and Technology

Dr. Ross Zumwalt  
Office of the Medical Examiner for the State of New Mexico
Summary of Project Activities

• The committee sponsored 8 meetings - 4 were open to the public
• The 4 open meetings included testimonials and recommendations from representatives in the various fields of forensic science, laboratory administrators, academia, statisticians, and lawyers
• During closed meetings, the committee deliberated, reviewed, and drafted a report with 13 recommendations
“Strengthening Forensic Science in the United States: A Path Forward”

1. Create a National Institute of Forensic Sciences (NIFS)
2. Standardize terminology and reporting practices
3. Expand research on the accuracy, reliability, and validity of the forensic sciences
4. Remove forensic science services from the administrative control of law enforcement agencies and prosecutors’ offices
5. Support forensic science research on human observer bias and sources of error
6. Develop tools for advancing measurement, validation, reliability, information sharing, and proficiency testing and to establish protocols for examinations, methods, and practices
“Strengthening Forensic Science in the United States: A Path Forward”

7. Require the mandatory accreditation of all forensic laboratories and certification for all forensic science practitioners
8. Laboratories should establish routine quality assurance procedures
9. Establish a national code of ethics with a mechanism for enforcement
10. Support higher education in the form of forensic science graduate programs, to include scholarships and fellowships
11. Improve the medico-legal death investigation system
12. Support AFIS interoperability through the development of standards
13. Support the use of forensic science in homeland security
NIJ Response to the NAS Report

- NIJ recognizes the need for fundamental research and currently supports projects that address the accuracy and reliability of forensic methods
  - Handwriting
  - Firearms/bullets
  - Tool Marks
  - Footwear Impressions
  - Tire Impressions
  - Bitemarks
  - Fingerprints

- Presently considering a solicitation for Fundamental Research for FY09
- In the process of establishing various Advisory Groups to address the NAS recommendations
- Continuing to improve the role as the lead RDT&E agency for the criminal justice system
Current NIJ Solicitations

Current Funding Opportunities

Paul Coverdell Forensic Science Improvement Grants Program (pdf)Show Description
Posted: April 15, 2009
Application Deadline: May 29, 2009 11:45 PM eastern time.

Postconviction DNA Testing Assistance Program (pdf)Show Description
Posted: March 27, 2009
Application Deadline: May 29, 2009 11:59 PM eastern time.

FY09 Forensic DNA Backlog Reduction Program (pdf)Show Description
Posted: April 20, 2009
Application Deadline: June 4, 2009 11:45 PM eastern time.
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