To establish scientific standards and protocols across forensic disciplines, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 12, 2012

Mr. ROCKEFELLER introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To establish scientific standards and protocols across forensic disciplines, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Forensic Science and Standards Act of 2012”.

(b) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

Sec.  1. Short title; table of contents.
Sec.  2. Findings.
Sec.  3. Definitions.
Sec.  4. National forensic science research program.
Sec.  5. Forensic science research grants program.
Sec.  6. Forensic science research challenges.
Sec.  7. Forensic science standards.
SEC. 2. FINDINGS.

Congress finds that—

(1) at the direction of Congress, the National Academy of Sciences led a comprehensive review of the state of forensic science and issued its findings in a 2009 report, “Strengthening Forensic Science in the United States: A Path Forward”;

(2) the report’s findings indicate the need for independent scientific research to support the foundation of forensic disciplines;

(3) the report stresses the need for standards in methods, data interpretation, and reporting, and the importance of preventing cognitive bias and mitigating human factors; and

(4) according to the report, forensic science research is not financially well supported, and there is a need for a unified strategy for developing a forensic science research plan across Federal agencies.

SEC. 3. DEFINITIONS.

In this Act:

(1) ADVISORY COMMITTEE.—The term “Advisory Committee” means the Forensic Science Advisory Committee established under section 8.
(2) **COORDINATING OFFICE.**—The term “Co-
ordinating Office” means the National Forensic
Science Coordinating Office established under sec-
tion 4.

(3) **FORENSIC SCIENCE.—**

(A) **IN GENERAL.**—The term “forensic
science” means the basic and applied scientific
research applicable to the collection, evaluation,
and analysis of physical evidence, including dig-
ital evidence, for use in investigations and legal
proceedings, including all tests, methods, meas-
urements, and procedures.

(B) **APPLIED SCIENTIFIC RESEARCH.**—In
subparagraph (A), the term “applied scientific
research” means a systematic study to gain
knowledge or understanding necessary to deter-
mine the means by which a recognized and spe-
cific need may be met.

(C) **BASIC SCIENTIFIC RESEARCH.**—In
subparagraph (A), the term “basic scientific re-
search” means a systematic study directed to-
ward fuller knowledge or understanding of the
fundamental aspects of phenomena and of ob-
servable facts without specific applications to-
wards processes or products.
(4) Standards development organization.—The term “standards development organization” means a domestic or an international organization that plans, develops, establishes, or coordinates voluntary consensus standards using procedures that incorporate openness, a balance of interests, consensus, due process, and an appeals process.

SEC. 4. NATIONAL FORENSIC SCIENCE RESEARCH PROGRAM.

(a) Establishment.—There shall be a national forensic science research program to improve, expand, and coordinate Federal research in the forensic sciences.

(b) National Academy of Sciences Report on Forensic Science.—The Director of the National Science Foundation shall contract with the National Academy of Sciences to develop, not later than 180 days after the date of enactment of this Act, a report that—

(1) identifies the most critical forensic science disciplines, which may include forensic pathology and digital forensics, that require further research to strengthen the scientific foundation in those disciplines; and

(2) makes recommendations regarding research that will help strengthen the scientific foundation in
the forensic science disciplines identified under paragraph (1).

(c) NATIONAL FORENSIC SCIENCE COORDINATING OFFICE.—

(1) ESTABLISHMENT.—There is established a National Forensic Science Coordinating Office, with a director and full time staff, to be located at the National Science Foundation. The Director of the Coordinating Office shall be responsible for carrying out the provisions of this subsection.

(2) UNIFIED FEDERAL RESEARCH STRATEGY.—

The Coordinating Office established under paragraph (1) shall coordinate among relevant Federal departments, agencies, or offices—

(A) the development of a unified Federal research strategy that—

(i) specifies and prioritizes the research necessary to enhance the validity and reliability of the forensic science disciplines; and

(ii) is consistent with the recommendations in the National Academy of Sciences report on forensic science under subsection (b);
(B) the development of a 5-year roadmap, updated triennially thereafter, for the unified Federal research strategy under subparagraph (A) that includes a description of—

(i) which department, agency, or office will carry out each specific element of the unified Federal research strategy;

(ii) short-term and long-term priorities and objectives; and

(iii) common metrics and other evaluation criteria that will be used to assess progress toward achieving the priorities and objectives under clause (ii); and

(C) any necessary programs, policies, and budgets to support the implementation of the roadmap under subparagraph (B).

(3) ADDITIONAL DUTIES.—The Coordinating Office shall—

(A) evaluate annually the national forensic science research program to determine whether it is achieving its objectives; and

(B) report annually to Congress the findings under subparagraph (A).

(4) DEADLINES.—The Coordinating Office shall submit to Congress—
(A) not later than 1 year after the date of enactment of this Act, the unified Federal research strategy under paragraph (2)(A);

(B) not later than 1 year after the date of enactment of this Act, the initial 5-year roadmap under paragraph (2)(B); and

(C) not later than 1 month after the date it is updated, each updated 5-year roadmap under paragraph (2)(B).

SEC. 5. FORENSIC SCIENCE RESEARCH GRANTS PROGRAM.

(a) Establishment.—Not later than 1 year after the date of enactment of this Act, the National Science Foundation shall establish a forensic science research grants program to improve the foundation and practice of forensic science in the United States based on the recommendations in the unified Federal research strategy under section 4.

(b) Merit Review.—Each grant under this section shall be awarded on a merit-reviewed, competitive basis.

(c) Publication.—The National Science Foundation shall support, as appropriate, the publication of research results under this section in scholarly, peer-reviewed scientific journals.

(d) Forensic Science Research Centers.—
(1) IN GENERAL.—As part of the forensic science research grants program under subsection (a), the Director of the National Science Foundation shall establish 2 forensic science research centers—

(A) to conduct research consistent with the unified Federal research strategy under section 4;

(B) to build relationships between forensic science practitioners and members of the research community;

(C) to encourage and promote the education and training of a diverse group of people to be leaders in the interdisciplinary field of forensic science; and

(D) to broadly disseminate the results of the research under subparagraph (A).

(2) TERMS OF DESIGNATION.—

(A) IN GENERAL.—The Director shall designate each forensic science research center for a 4-year term.

(B) REVOCATION.—The Director may revoke a designation under subparagraph (A) if the Director determines that the forensic science research center is not demonstrating adequate performance.
(C) **Amount of Award.**—Subject to subsection (f), the Director shall award a grant up to $10,000,000 to each forensic science research center. A grant awarded under this subparagraph shall be for a period of 4 years.

(D) **Limitation on Use of Funds.**—No funds authorized under this section may be used to construct or renovate a building or structure.

(3) **Reports.**—Each forensic science research center shall submit an annual report to the Director, at such time and in such manner as the Director may require, that contains a description of the activities the center carried out with the funds received under this subsection, including a description of how those activities satisfy the requirement under paragraph (2)(D).

(e) **Evaluation.**—

(1) **In General.**—The Director of the National Science Foundation shall conduct a comprehensive evaluation of the forensic science research grants program every 4 years—

(A) to determine whether the program is achieving the objectives of improving the foun-
dation and practice of forensic science in the
United States; and

(B) to evaluate the extent to which the
program is contributing toward the priorities
and objectives described in the roadmap under
section 4(c)(2)(B).

(2) REPORT TO CONGRESS.—The Director of
the National Science Foundation shall report to
Congress the results of each comprehensive evalua-
tion under paragraph (1).

(f) AUTHORIZATION OF APPROPRIATIONS.—There
are authorized to be appropriated to the National Science
Foundation to carry out this section—

(1) $34,000,000 for fiscal year 2013;
(2) $37,000,000 for fiscal year 2014;
(3) $40,000,000 for fiscal year 2015;
(4) $43,000,000 for fiscal year 2016; and
(5) $46,000,000 for fiscal year 2017.

SEC. 6. FORENSIC SCIENCE RESEARCH CHALLENGES.

(a) PRIZES AND CHALLENGES.—

(1) IN GENERAL.—A Federal department, agen-
cy, or office may assist in satisfying the research
needs and priorities identified in the unified Federal
research strategy under section 4 by using prizes
and challenges under the America COMPETES Re-
authorization Act (124 Stat. 3982) or under any other provision of law, as appropriate.

(2) PURPOSES.—The purpose of a prize or challenge under this section, among other possible purposes, may be—

(A) to determine or develop the best data collection practices or analytical methods to evaluate a specific type of forensic data; or

(B) to determine the accuracy of an analytical method.

(b) FORENSIC EVIDENCE PRIZES AND CHALLENGES.—

(1) IN GENERAL.—A Federal department, agency, or office, or multiple Federal departments, agencies, or offices in cooperation, carrying out a prize or challenge under this section—

(A) may establish a prize advisory board; and

(B) shall select each member of the prize advisory board with input from relevant Federal departments, agencies, or offices.

(2) PRIZE ADVISORY BOARD.—The prize advisory board shall—

(A) identify 1 or more types of forensic evidence for purposes of a prize or challenge;
(B) using the samples under paragraph (3), recommend how to structure a prize or challenge that requires a competitor to develop a forensic data collection practice, an analytical method, or a relevant approach or technology to be tested relative to a known outcome or other proposed judging methodology; and

(C) through the Coordinating Office, advise relevant Federal departments, agencies, or offices in designing prizes or challenges that satisfy the research needs and priorities identified in the unified Federal research strategy under section 4.

(3) SAMPLES.—The National Institute of Standards and Technology or the Department of Justice shall provide or contract with a non-Federal party to prepare, for each type of forensic evidence under paragraph (2)(A), a sufficient set of samples, including associated digital data that could be shared without limitation and physical specimens that could be shared with qualified parties, for purposes of a prize or challenge.

(4) FINGERPRINT DATA INTEROPERABILITY.—At least 1 prize or challenge under this section shall be focused on achieving nationwide fingerprint data
interoperability if the prize advisory board, the Co-
ordinating Office, or a Federal department, agency,
or office identifies an area where a prize or challenge
will assist in satisfying a strategy related to this
issue.

SEC. 7. FORENSIC SCIENCE STANDARDS.

(a) Establishment.—

(1) In general.—The National Institute of
Standards and Technology shall—

(A) identify or coordinate the development
of forensic science standards to enhance the va-
lidity and reliability of forensic science activi-
ties, including—

(i) authoritative methods, standards,
and technical guidance, including protocols
and best practices, for forensic measure-
ments, analysis, and interpretation;

(ii) technical standards for products
and services used by forensic science prac-
titioners;

(iii) standard content, terminology,
and parameters to be used in reporting
and testifying on the results and interpre-
tation of forensic science measurements,
tests, and procedures; and
(iv) standards to provide for the interoperability of forensic science-related technology and databases;

(B) test and validate existing forensics standards, as appropriate; and

(C) provide independent validation of forensic science measurements and methods.

(2) Consultation.—

(A) In general.—In carrying out its responsibilities under paragraph (1), the National Institute of Standards and Technology shall consult with—

(i) standards development organizations and other stakeholders, including relevant Federal departments, agencies, and offices; and

(ii) testing laboratories and accreditation bodies to ensure that products and services meet necessary performance levels.

(3) Prioritization.—When prioritizing its responsibilities under paragraph (1), the National Institute of Standards and Technology shall consider—

(A) the unified Federal research strategy under section 4; and
(B) the recommendations of any expert working group under subsection (b).

(4) REPORT TO CONGRESS.—The Director of the National Institute of Standards and Technology shall report annually, with the President’s budget request, to Congress on the progress in carrying out the National Institute of Standards and Technology’s responsibilities under paragraph (1).

(b) EXPERT WORKING GROUPS.—

(1) IN GENERAL.—The Director of the National Institute of Standards and Technology may establish 1 or more discipline-specific expert working groups to identify gaps, areas of need, and opportunities for standards development with respect to forensic science.

(2) MEMBERS.—A member of an expert working group shall—

(A) be appointed by the Director of the National Institute of Standards and Technology;

(B) have significant academic, research, or practical expertise in a discipline of forensic science or in another area relevant to the purpose of the expert working group; and
(C) balance scientific rigor with practical and regulatory constraints.

(3) **FEDERAL ADVISORY COMMITTEE ACT.**—An expert working group established under this subsection shall not be subject to the Federal Advisory Committee Act (5 U.S.C. App.).

(e) **AUTHORIZATION OF APPROPRIATIONS.**—There are authorized to be appropriated to the National Institute of Standards and Technology to carry out this section—

(1) $5,000,000 for fiscal year 2013;
(2) $12,000,000 for fiscal year 2014;
(3) $20,000,000 for fiscal year 2015;
(4) $27,000,000 for fiscal year 2016; and
(5) $35,000,000 for fiscal year 2017.

**SEC. 8. FORENSIC SCIENCE ADVISORY COMMITTEE.**

(a) **ESTABLISHMENT.**—The Director of the National Institute of Standards and Technology and the Attorney General, in collaboration with the Director of the National Science Foundation, shall establish a Forensic Science Advisory Committee.

(b) **DUTIES.**—The Advisory Committee shall provide advice to—

(1) the Federal departments, agencies, and offices implementing the unified Federal research strategy under section 4;
(2) the National Institute of Standards and Technology, including recommendations regarding the National Institute of Standards and Technology’s responsibilities under section 7; and

(3) the Department of Justice, including recommendations regarding the Department of Justice’s responsibilities under section 9.

(c) SUBCOMMITTEES.—The Advisory Committee may form subcommittees related to specific disciplines in forensic science or as necessary to further its duties under subsection (b). A subcommittee may include an individual who is not a member of the Advisory Committee.

(d) CHAIRS.—The Director of the National Institute of Standards and Technology and the Attorney General, or their designees, shall co-chair the Advisory Committee.

(e) MEMBERSHIP.—The Director of the National Institute of Standards and Technology and the Attorney General, in consultation with the Director of the National Science Foundation, shall appoint each member of the Advisory Committee. The Advisory Committee shall include balanced representation between forensic science disciplines (including academic scientists, statisticians, social scientists, engineers, and representatives of other related scientific disciplines) and relevant forensic science applications (including Federal, State, and local representatives
of the forensic science community, the legal community, victim advocate organizations, and law enforcement).

(f) Administration.—The Attorney General shall provide administrative support to the Advisory Committee.

(g) Federal Advisory Committee Act.—The Advisory Committee established under this section shall not be subject to section 14 of the Federal Advisory Committee Act (5 U.S.C. App.).

SEC. 9. ADOPTION, ACCREDITATION, AND CERTIFICATION.

The Attorney General—

(1) shall promote the adoption of forensic science standards developed under section 7, including—

(A) by requiring each Federal forensic laboratory to adopt the forensic science standards;

(B) by encouraging each non-Federal forensic laboratory to adopt the forensic science standards;

(C) by promoting accreditation and certification requirements based on the forensic science standards; and

(D) by promoting any recommendations made by the Advisory Committee for adoption and implementation of forensic science standards; and
(2) may promote the adoption of the forensic science standards as a condition of Federal funding or for inclusion in national data sets.

SEC. 10. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY FUNCTIONS.

Section 2(b) of the National Institute of Standards and Technology Act (15 U.S.C. 272(b)) is amended—

(1) in paragraph (12), by striking “and” after the semicolon;

(2) in paragraph (13), by striking the period at the end and inserting “; and”;

(3) by adding at the end the following:

“(14) to identify and coordinate the development of forensic science standards to enhance the validity and reliability of forensic science activities.”.