

113TH CONGRESS  
2D SESSION

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

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IN THE SENATE OF THE UNITED STATES

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introduced the following bill; which was read twice  
and referred to the Committee on \_\_\_\_\_

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## **A BILL**

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

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

**3 SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4       (a) SHORT TITLE.—This Act may be cited as the  
5       “Forensic Science and Standards Act of 2014”.

6       (b) TABLE OF CONTENTS.—The table of contents of  
7       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. 8. Forensic science advisory committee.

Sec. 9. Adoption, accreditation, and certification.

Sec. 10. National Institute of Standards and Technology functions.

**1 SEC. 2. FINDINGS.**

2 Congress finds that—

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

8 (2) the report’s findings indicate the need for  
9 independent scientific research to support the foun-  
10 dation of forensic disciplines;

11 (3) the report stresses the need for standards  
12 in methods, data interpretation, and reporting, and  
13 the importance of preventing cognitive bias and miti-  
14 gating human factors; and

15 (4) according to the report, forensic science re-  
16 search is not financially well supported, and there is  
17 a need for a unified strategy for developing a foren-  
18 sic science research plan across Federal agencies.

**19 SEC. 3. DEFINITIONS.**

20 In this Act:

21 (1) ADVISORY COMMITTEE.—The term “Advi-  
22 sory Committee” means the Forensic Science Advi-  
23 sory Committee established under section 8.

5 (3) FORENSIC SCIENCE.—

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

19 (C) BASIC SCIENTIFIC RESEARCH.—In  
20 subparagraph (A), the term “basic scientific re-  
21 search” means a systematic study directed to-  
22 ward fuller knowledge or understanding of the  
23 fundamental aspects of phenomena and of ob-  
24 servable facts without specific applications to-  
25 wards processes or products.

8 SEC. 4. NATIONAL FORENSIC SCIENCE RESEARCH PRO-  
9 GRAM.

10 (a) ESTABLISHMENT.—There shall be a national fo-  
11 rensic science research program to improve, expand, and  
12 coordinate Federal research in the forensic sciences.

13 (b) NATIONAL ACADEMY OF SCIENCES REPORT ON  
14 FORENSIC SCIENCE.—The Director of the National  
15 Science Foundation shall contract with the National Acad-  
16 emy of Sciences to develop, not later than 180 days after  
17 the date of enactment of this Act, a report that—

18 (1) identifies the most critical forensic science  
19 disciplines, which may include forensic pathology  
20 and digital forensics, that require further research to  
21 strengthen the scientific foundation in those dis-  
22 ciplines; and

23 (2) makes recommendations regarding research  
24 that will help strengthen the scientific foundation in

1       the forensic science disciplines identified under para-  
2       graph (1).

3       (c) NATIONAL FORENSIC SCIENCE COORDINATING  
4 OFFICE.—

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

11           (2) UNIFIED FEDERAL RESEARCH STRATEGY.—  
12       The Coordinating Office established under para-  
13       graph (1) shall coordinate among relevant Federal  
14       departments, agencies, or offices—

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

17               (i) specifies and prioritizes the re-  
18       search necessary to enhance the validity  
19       and reliability of the forensic science dis-  
20       ciplines; and

21               (ii) is consistent with the rec-  
22       ommendations in the National Academy of  
23       Sciences report on forensic science under  
24       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).

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

22 (B) report annually to Congress the find-  
23 ings under subparagraph (A).

24 (4) DEADLINES.—The Coordinating Office shall  
25 submit to Congress—

1 (A) not later than 1 year after the date of  
2 enactment of this Act, the unified Federal re-  
3 search strategy under paragraph (2)(A);

(B) not later than 1 year after the date of enactment of this Act, the initial 5-year road-map 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).

## 10 SEC. 5. FORENSIC SCIENCE RESEARCH GRANTS PROGRAM.

11 (a) ESTABLISHMENT.—Not later than 1 year after  
12 the date of enactment of this Act, the National Science  
13 Foundation shall establish a forensic science research  
14 grants program to improve the foundation and practice  
15 of forensic science in the United States based on the rec-  
16 ommendations in the unified Federal research strategy  
17 under section 4.

18 (b) MERIT REVIEW.—Each grant under this section  
19 shall be awarded on a merit-reviewed, competitive basis.

20 (c) PUBLICATION.—The National Science Founda-  
21 tion shall support, as appropriate, the publication of re-  
22 search results under this section in scholarly, peer-re-  
23 viewed scientific journals.

24 (d) FORENSIC SCIENCE RESEARCH CENTERS.—

5 (A) to conduct research consistent with the  
6 unified Federal research strategy under section  
7 4;

8 (B) to build relationships between forensic  
9 science practitioners and members of the re-  
10 search community;

11 (C) to encourage and promote the edu-  
12 cation and training of a diverse group of people  
13 to be leaders in the interdisciplinary field of fo-  
14 rensic science; and

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

17 (2) TERMS OF DESIGNATION.—

18 (A) IN GENERAL.—The Director shall des-  
19 ignate each forensic science research center for  
20 a 4-year term.

21 (B) REVOCATION.—The Director may re-  
22 voke a designation under subparagraph (A) if  
23 the Director determines that the forensic  
24 science research center is not demonstrating  
25 adequate performance.

1 (C) AMOUNT OF AWARD.—Subject to sub-  
2 section (f), the Director shall award a grant up  
3 to \$10,000,000 to each forensic science re-  
4 search center. A grant awarded under this sub-  
5 paragraph shall be for a period of 4 years.

6 (D) LIMITATION ON USE OF FUNDS.—No  
7 funds authorized under this section may be  
8 used to construct or renovate a building or  
9 structure.

## 18 (e) EVALUATION.—

23 (A) to determine whether the program is  
24 achieving the objectives of improving the foun-

1 dation and practice of forensic science in the  
2 United States; and

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

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

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

14 (1) \$37,000,000 for fiscal year 2014;  
15 (2) \$40,000,000 for fiscal year 2015;  
16 (3) \$43,000,000 for fiscal year 2016;  
17 (4) \$46,000,000 for fiscal year 2017; and  
18 (5) \$49,000,000 for fiscal year 2018.

19 **SEC. 6. FORENSIC SCIENCE RESEARCH CHALLENGES.**

20 (a) PRIZES AND CHALLENGES.—

21 (1) IN GENERAL.—A Federal department, agen-  
22 cy, or office may assist in satisfying the research  
23 needs and priorities identified in the unified Federal  
24 research strategy under section 4 by using prizes  
25 and challenges under the America COMPETES Re-

1       authorization Act (124 Stat. 3982) or under any  
2       other provision of law, as appropriate.

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

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

9                       (B) to determine the accuracy of an ana-  
10       lytical method.

11       (b) FORENSIC EVIDENCE PRIZES AND CHAL-  
12       LENGES.—

13               (1) IN GENERAL.—A Federal department, agen-  
14       cy, or office, or multiple Federal departments, agen-  
15       cies, or offices in cooperation, carrying out a prize  
16       or challenge under this section—

17                       (A) may establish a prize advisory board;  
18       and

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

22               (2) PRIZE ADVISORY BOARD.—The prize advi-  
23       sory board shall—

24                       (A) identify 1 or more types of forensic  
25       evidence for purposes of a prize or challenge;

1 (B) using the samples under paragraph  
2 (3), recommend how to structure a prize or  
3 challenge that requires a competitor to develop  
4 a forensic data collection practice, an analytical  
5 method, or a relevant approach or technology to  
6 be tested relative to a known outcome or other  
7 proposed judging methodology; and

8 (C) through the Coordinating Office, ad-  
9 vise relevant Federal departments, agencies, or  
10 offices in designing prizes or challenges that  
11 satisfy the research needs and priorities identi-  
12 fied in the unified Federal research strategy  
13 under section 4.

23 (4) FINGERPRINT DATA INTEROPERABILITY.—  
24 At least 1 prize or challenge under this section shall  
25 be focused on achieving nationwide fingerprint data

1        interoperability if the prize advisory board, the Co-  
2        ordinating Office, or a Federal department, agency,  
3        or office identifies an area where a prize or challenge  
4        will assist in satisfying a strategy related to this  
5        issue.

6 **SEC. 7. FORENSIC SCIENCE STANDARDS.**

7        (a) ESTABLISHMENT.—

8                (1) IN GENERAL.—The National Institute of  
9        Standards and Technology shall—

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

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

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

21                (iii) standard content, terminology,  
22        and parameters to be used in reporting  
23        and testifying on the results and interpre-  
24        tation of forensic science measurements,  
25        tests, and procedures; and

1 (iv) standards to provide for the inter-  
2 operability of forensic science-related tech-  
3 nology and databases;

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

6 (C) provide independent validation of forensic science measurements and methods.  
7

## 8 (2) CONSULTATION.—

17 (ii) testing laboratories and accredita-  
18 tion bodies to ensure that products and  
19 services meet necessary performance levels

20 (3) PRIORITIZATION.—When prioritizing its re-  
21 sponsibilities under paragraph (1), the National In-  
22 stitute of Standards and Technology shall con-  
23 sider—

24 (A) the unified Federal research strategy  
25 under section 4; and

(B) the recommendations of any expert working group under subsection (b).

## 9 (b) EXPERT WORKING GROUPS.—

16 (2) MEMBERS.—A member of an expert work-  
17 ing group shall—

18 (A) be appointed by the Director of the  
19 National Institute of Standards and Tech-  
20 nology;

21 (B) have significant academic, research, or  
22 practical expertise in a discipline of forensic  
23 science or in another area relevant to the pur-  
24 pose of the expert working group; and

(C) balance scientific rigor with practical and regulatory constraints.

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

10 (1) \$12,000,000 for fiscal year 2014;

11 (2) \$20,000,000 for fiscal year 2015;

12 (3) \$27,000,000 for fiscal year 2016;

13 (4) \$35,000,000 for fiscal year 2017; and

14 (5) \$43,000,000 for fiscal year 2018.

## 15 SEC. 8. FORENSIC SCIENCE ADVISORY COMMITTEE.

16 (a) ESTABLISHMENT.—The Director of the National  
17 Institute of Standards and Technology and the Attorney  
18 General, in collaboration with the Director of the National  
19 Science Foundation, shall establish a Forensic Science Ad-  
20 visory Committee.

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

23 (1) the Federal departments, agencies, and of-  
24 fices implementing the unified Federal research  
25 strategy under section 4;

1 (2) the National Institute of Standards and  
2 Technology, including recommendations regarding  
3 the National Institute of Standards and Tech-  
4 nology's responsibilities under section 7; and

5 (3) the Department of Justice, including rec-  
6 ommendations regarding the Department of Jus-  
7 tice's responsibilities under section 9.

8 (c) SUBCOMMITTEES.—The Advisory Committee may  
9 form subcommittees related to specific disciplines in foren-  
10 sic science or as necessary to further its duties under sub-  
11 section (b). A subcommittee may include an individual who  
12 is not a member of the Advisory Committee.

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

16 (e) MEMBERSHIP.—The Director of the National In-  
17 stitute of Standards and Technology and the Attorney  
18 General, in consultation with the Director of the National  
19 Science Foundation, shall appoint each member of the Ad-  
20 visory Committee. The Advisory Committee shall include  
21 balanced representation between forensic science dis-  
22 ciplines (including academic scientists, statisticians, social  
23 scientists, engineers, and representatives of other related  
24 scientific disciplines) and relevant forensic science applica-  
25 tions (including Federal, State, and local representatives

1 of the forensic science community, the legal community,  
2 victim advocate organizations, and law enforcement).

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

5 (g) FEDERAL ADVISORY COMMITTEE ACT.—The Ad-  
6 visory Committee established under this section shall not  
7 be subject to section 14 of the Federal Advisory Com-  
8 mittee Act (5 U.S.C. App.).

9 **SEC. 9. ADOPTION, ACCREDITATION, AND CERTIFICATION.**

10 The Attorney General—

11 (1) shall promote the adoption of forensic  
12 science standards developed under section 7, includ-  
13 ing—

14 (A) by requiring each Federal forensic lab-  
15 oratory to adopt the forensic science standards;

16 (B) by encouraging each non-Federal fo-  
17 rensic laboratory to adopt the forensic science  
18 standards;

19 (C) by promoting accreditation and certifi-  
20 cation requirements based on the forensic  
21 science standards; and

22 (D) by promoting any recommendations  
23 made by the Advisory Committee for adoption  
24 and implementation of forensic science stand-  
25 ards; and

4 SEC. 10. NATIONAL INSTITUTE OF STANDARDS AND TECH-  
5 NOLOGY FUNCTIONS.

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

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

12 (3) by adding at the end the following:

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