P.O. Box 34553
Washington, DC 20043

Submitted via regulations.gov

February 16, 2022

The Honorable John D. Bates, Chair
Committee on Rules of Practice and Procedure
Administrative Office of the United States Courts
One Columbus Circle NE
Washington, DC 20544

Re: *Proposed Amendments to Federal Rule of Evidence 702*

Dear Judge Bates:

On behalf of the Union of Concerned Scientists, Democracy Forward Foundation submits this comment in support of the proposed amendments to Federal Rule of Evidence 702. The Union of Concerned Scientists is a science advocacy organization that works to promote the rigorous, independent use of science to solve the world's problems, and the Center for Science and Democracy within UCS has a mission of working to ensure that independent science can inform public decision-making without undue political interference. Accordingly, UCS has a significant interest in ensuring that information presented to juries as the product of scientific expertise is, consistent with Federal Rule of Evidence 702, "based on sufficient facts or data," "the product of reliable principles and methods," and, importantly, reflecting a reliable application of the latter to the former.[1] Clarifying that courts should impose a preponderance-of-the-evidence standard in analyzing these questions is critical to meeting those goals.

UCS is particularly interested in the use of reliable methodology as it applies to forensic experts, and strongly encourages the Committee to retain the discussion of forensic experts in its draft Committee Note. As the draft Note sets forth, "[f]orensic experts should avoid assertions of absolute or one hundred percent certainty—or to a reasonable degree of scientific certainty—if the methodology is

[1] Fed. R. Evid. 702(b), (c).

subjective and thus potentially subject to error."[2] Judges should therefore be presented with "an estimate of the known or potential rate of error of the methodology employed, based (where appropriate) on studies that reflect how often the method produces accurate results."[3] The draft note specifically addresses "testimony regarding the weight of feature comparison evidence," that is, evidence arguing that certain features of two items correspond, and cautions that such testimony "must be limited to those inferences that can reasonably be drawn from a reliable application of the principles and methods."[4]

UCS strongly agrees with each of these points and believes that their inclusion in the Committee Note will provide helpful guidance to courts hearing proffered forensic expert testimony. As the May 15, 2021 Report of the Advisory Committee on Evidence Rules reflects, the President's Council of Advisors on Science and Technology (PCAST) 2016 Report[5] raised significant challenges to the quality of forensic evidence used in criminal cases.[6] And, as the Advisory Committee Report notes, one concern in particular is "the problem of overstating results" in forensic testimony, such as "stating an opinion as having a 'zero error rate[,]' where that conclusion is not supportable by the methodology."[7]

This issue is of particular concern with the sort of feature-comparison evidence described in the draft Committee Note. As the PCAST Report explained, such methods "attempt to determine whether an evidentiary sample (e.g., from a crime scene) is or is not associated with a potential 'source' sample (e.g., from a suspect), based on the presence of similar patterns, impressions, or other features in the sample and the source."[8] After an extensive review of 2,000 studies and input from forensic scientists, judges, prosecutors, defense attorneys, and others, PCAST determined that some forensic techniques used in criminal investigations and trials are simply not rooted in sound scientific principles.[9] For example, PCAST identified

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[2] Committee on Rules of Practice and Procedure, Judicial Conference of the United States, *Preliminary Draft: Proposed Amendments to the Federal Rules of Appellate Bankruptcy, Civil, and Criminal Procedure and the Federal Rules of Evidence* 311 (Aug. 2021), https://www.uscourts.gov/sites/default/files/preliminary_draft_of_proposed_amendments_2021_0.pdf ("Proposed Amendments").

[3] *Id.*

[4] *Id.*

[5] *See* PCAST, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* (Sept. 2016), *available at* https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf ("PCAST Report").

[6] *See* Proposed Amendments, *supra* note 2, at 296.

[7] *Id.*

[8] PCAST Report, *supra* note 5, at 1.

[9] *Id.* at 2.

no reliable study showing the validity of methods for determining that a footprint came from a specific piece of footwear (as opposed to class characteristics of the shoe, such as its size).[10] The PCAST thus concluded that analyses "to associate shoeprints with particular shoes based on specific identifying marks . . . are not scientifically valid."[11]

Bitemark analysis fared even worse: the PCAST found that "no appropriate black-box studies" have been conducted to show the technique's validity and that the studies that have been conducted resulted in "very high" false-positive rates.[12] Indeed, the PCAST found that "available scientific evidence strongly suggests that examiners not only cannot identify the source of [a] bitemark with reasonable accuracy, they cannot even consistently agree on whether an injury *is* a human bitemark."[13] Thus, "bitemark analysis does not meet the scientific standards for foundational validity, and is far from meeting such standards."[14]

As to firearms analysis, the PCAST Report focused on toolmark analysis—that is, the visual inspection of groove-marks left on ammunition after shooting to assess whether those marks match those created by a suspected gun.[15] The PCAST Report found that, although "[f]irearms analysts have long stated that their discipline has near-perfect accuracy,"[16] the discipline had largely relied on studies that, because of their design, "seriously underestimate the false positive rate."[17] The PCAST therefore recommended that, "[i]f firearms analysis is allowed in court, the scientific criteria for validity as applied should be understood to require clearly reporting the error rates seen in appropriately designed black-box studies," which are estimated at one false positive in every sixty-six cases.[18]

The PCAST therefore recommended that subjective techniques—such as feature-comparison—be consistently validated through "black box" studies so that an error rate can be determined.[19] Without estimates of accuracy rates, the report found that an examiner's statement that one sample is similar to another is

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[10] *Id.* at 12–13.

[11] *Id.* at 117.

[12] *Id.* at 8–9.

[13] *Id.* at 9 (emphasis in original).

[14] *Id.* at 87.

[15] *Id.* at 104.

[16] *Id.* at 105.

[17] *Id.* at 111.

[18] *Id.* at 112.

[19] *Id.* at 5–6.

scientifically meaningless.[20] The draft Committee Note's emphasis on disclosing the error rates of a forensic expert's methodology is therefore well warranted. The draft Committee Note is not "advocating for reform within a particular scientific discipline," as the National District Attorneys Association incorrectly puts it.[21] Rather, the Note is correctly pointing out that courts must be attentive to their longstanding gatekeeping function to prevent juries from receiving evidence that has no scientific basis.

Unfortunately, the problems raised by the 2016 PCAST Report have not abated, making clear guidance from the Federal Rules of Evidence still necessary. Despite the significant limitations of feature-comparison methods, prosecutors have continued to defend them and to introduce evidence of them into criminal court. Indeed, in the last week of the Trump administration, the Department of Justice issued an unsigned statement criticizing the PCAST Report and its recommendations as "fundamentally incorrect."[22] The DOJ Statement specifically rejected the PCAST's recommendation that black-box studies should be used to assess error rates for feature comparison analysis.[23]

Although the DOJ Statement's criticisms of the PCAST Report are not scientifically supported—indeed, they are inaccurate, unverifiable, and unreliable[24]—they evince an intention to continue proffering forensic experts without due attention to verifiable error rates. Indeed, the DOJ Statement was itself explicitly issued as a response to "a number of recent federal and state court opinions [that] have cited the [PCAST] Report as support for limiting the admissibility of firearms/toolmarks evidence in criminal cases."[25] This is of

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[20] *Id.* at 6.

[21] Comment Letter from National District Attorneys Association (Feb. 15, 2022), https://www.regulations.gov/comment/USC-RULES-EV-2021-0005-0105.

[22] United States Department of Justice Statement on the PCAST Report: *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* at 1, *available at* https://www.justice.gov/olp/page/file/1352496/download ("DOJ Statement").

[23] *Id.* at 15–17.

[24] For a more thorough discussion of the myriad issues presented by the DOJ Statement, please see the Union of Concerned Scientists' June 24, 2021 petition that the Department of Justice retract the Statement pursuant to the Information Quality Act, *available at* https://democracyforward.org/wp-content/uploads/2021/06/UCS-IQA-Request-re-PCAST-Statement-6.24.21.pdf. Although DOJ was required by the IQA and its implementing policies to respond to the petition by October 22, 2021, DOJ has not issued any response.

[25] DOJ Statement, *supra* note 22, at 2. The press release accompanying the statement likewise noted concerns that "several courts . . . have recently limited the scope of opinion testimony." Press Release, DOJ Office of Public Affairs, Justice Department Publishes Statement on 2016 President's Council of Advisors on Science and Technology Report (Jan. 13, 2021), *available at* https://www.justice.gov/opa/pr/justice-department-publishes-statement-2016-presidents-council-advisors-science-and.

particular concern, as untested, unscientific statements by DOJ are liable to be incorporated into judicial opinions, where they can become enshrined in precedent and perpetuate the effects of unverifiable conclusions.[26]

There are similar indications that FBI forensic experts may be disinclined to follow the scientific recommendations of the PCAST Report. Just last year, the Assistant General Counsel for the FBI Forensic Laboratory provided a lecture handout stating that "[h]aving an expert testify only about class characteristics alone is demeaning to the profession of firearms examiners, especially when they have found sufficient agreement of individual characteristics to opine about identification," and that "[t]estimony about class characteristics alone may falsely imply an examiner was unable to reach a conclusion of identification."[27] The document provides a suggested script for experts to use in court to resist being asked to frame their opinion as a sort of probability (such as, "consistent with having been fired by this gun" or "more likely than not having been fired by this gun").[28] The document further suggests that experts testify that it would be "perjury" to tell a jury that their opinion is anything less than "Identification."[29] Although the Texas Forensic Science Commission refuted the FBI advisor's document under Texas Rule of Evidence 702, noting that its "logic is irredeemably faulty and runs counter to core principles in science,"[30] its very provenance and circulation reinforce the point that clear guardrails are necessary to prevent the admission of forensic evidence that lacks a scientific basis.

Given these efforts to undermine scientific recommendations aimed at ensuring that forensic experts do not overstate the certainty that attaches to their analysis, it is imperative to establish clear judicial standards governing admissibility. The draft Committee Note is essential in providing such clarity.

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[26] *See* Adam Liptak, *Did the Supreme Court Base a Ruling on a Myth?*, N.Y. Times (Mar. 6, 2017), https://www.nytimes.com/2017/03/06/us/politics/supreme-court-repeat-sex-offenders.html (tracing the fallout of a statistic mentioned, without citation, in a general audience magazine, which was then cited in a DOJ practitioner's guide, which was cited in turn by the United States Supreme Court, which has been cited in turn in more than one hundred lower-court opinions); *see also* Radley Balko, *Opinion: The furor over Sonia Sotomayor's false covid claim misses a more important problem*, Wash. Post (Jan. 11, 2022), https://www.washingtonpost.com/opinions/2022/01/11/furor-over-sonia-sotomayors-false-covid-claim-misses-more-important-problem/ (collecting examples of inaccurate scientific and statistical information enshrined in Supreme Court precedent).

[27] Radley Balko, *Why a High-Ranking FBI Attorney Is Pushing 'Unbelievable' Junk Science on Guns*, Daily Beast (Feb. 9, 2022), https://www.thedailybeast.com/the-fbi-keeps-pushing-junk-science-to-win-convictions.

[28] *Id.*

[29] *Id.*

[30] Texas Forensic Science Commission, *Statement of the Texas Forensic Science Commission Regarding "Alternate Firearms Opinion Terminology"* 3, https://www.txcourts.gov/media/1453352/tfsc-statement-re-firearms-terminology-document.pdf.

In this regard, although UCS finds the draft Committee Note clear in its explanation that judges must carefully assess the methodology proffered by forensic expert testimony before admitting it into evidence, it may be helpful for the Committee to explicitly state that the amendments to Rule 702 go to admissibility, rather than weight, as to forensic experts. The comment submitted by the New York State Crime Laboratory Advisory Committee states that its "position" on the amended Rule 702 "is that the changes limiting forensic science testimony go to weight, rather than admissibility."[31] This "position" is clearly contravened by the text of the rule, but the Committee should ensure that no possible ambiguity remains. NYCLAC argues that its feature-comparison experts "adhere[]" to a New York State Forensic Laboratory Report Standardization Manual that recommends "forensic experts avoid assertions of absolute or one hundred percent certainty where the method is subjective" and so their testimony "therefore should be admitted into evidence."[32] This misconstrues both the text and purpose of the Committee Note, and underscores why the note is necessary. A forensic expert may well avoid assertions of absolute certainty—while still drastically overstating whatever level of certainty may exist. This is precisely why proponents of forensic evidence should be required to present courts with estimates of error rates relevant to their methodologies.

Ensuring that forensic expert evidence meets a minimum standard of reliability is essential to preventing the unjust conviction of innocent people and to promoting public confidence in the judicial system. We are happy to discuss these issues more thoroughly if the Committee would find it helpful. Please do not hesitate to contact UCS through undersigned counsel at jmorton@democracyforward.org or (202) 448-9090.

Respectfully submitted,

/s/ Jessica Anne Morton
Jessica Anne Morton, Senior Counsel
Democracy Forward Foundation

Counsel for the Union of Concerned Scientists

[31] Comment Letter from New York State Crime Laboratory Advisory Committee (Jan. 26, 2022), https://www.regulations.gov/comment/USC-RULES-EV-2021-0005-0041.

[32] *Id.*