

Rebecca A. Womeldorf, Secretary  
Committee on Rules of Practice and Procedure  
Administrative Office of the United States Courts  
One Columbus Circle, NE  
Washington, D.C. 20544

October 15, 2020

Re: In Support of Amending Federal Rule of Evidence (“FRE” or “Rule”) 702

Dear Ms. Womeldorf:

We, the undersigned, include advocates who represent indigent clients charged with criminal offenses in federal and state court, at trial, on appeal and in post-conviction, and who study and conduct research geared towards assuring that sound scientific evidence is used in the justice system. We also include a diverse array of advocacy and technical assistance organizations that support the use of only valid and reliable scientific evidence in criminal courts to ensure that justice is administered fairly and Constitutionally. Collectively, we agree it is in every stakeholder’s interest—including prosecutors, defense attorneys, policy advocates, and citizens—to ensure that only sound scientific evidence is used in the justice system. Our respective experiences underscore the importance of amending Federal Rule of Evidence 702 to bring a measure of scientific integrity in proceedings in which life and liberty are at stake. Moreover, because indigent people and people of color are disproportionately prosecuted in criminal courts, we also consider the proposed amendment to Rule 702 to be a critical economic and racial justice issue. We offer this letter to encourage the Committee to consider amending Rule 702.

Courts have frequently failed to exclude unreliable or insufficiently tested forensic techniques or to rein in exaggerated and misleading claims by experts.<sup>1</sup> This has resulted in a divergence from the Committee’s intentions in writing the rule to align with the Supreme Court’s ruling in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*<sup>2</sup> Empirical research demonstrates that, particularly in criminal cases, judges often do not faithfully apply the reliability factors set forth in *Daubert* (and subsequently codified in FRE 702), but rather rely on prior (pre-*Daubert* and pre-Rule 702) legal precedent previously allowing admission of similar types of evidence, or they rely simply on the credentials of the expert seeking to testify.<sup>3</sup> For those reasons, the reliability standard from *Daubert* that is reflected in the text of Rule 702 “is widely perceived to have been neglected by federal judges.”<sup>4</sup>

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<sup>1</sup> Brandon L. Garrett & M. Chris Fabricant, *The Myth of the Reliability Test*, 86 Fordham L. Rev. 1559 (2018) (describing rulings in state courts adopting Rule 702 as well as federal rulings regarding fingerprint evidence).

<sup>2</sup> 509 U.S. 579 (1993). See also 1 DAVID L. FAIGMAN, EDWARD K. CHENG, JENNIFER L. MNOOKIN, ERIN E. MURPHY, JOSEPH SANDERS & CHRISTOPHER SLOBOGIN, *MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY* § 1:30 (2019).

<sup>3</sup> See, e.g., Nat’l Research Council of the Nat’l Acad. of Sciences, *Strengthening Forensic Science in the United States: A Path Forward* 98 n. 53 (2009); M. Chris Fabricant & Tucker Carrington, *The Shifted Paradigm: Forensic Science’s Overdue Evolution from Magic to Law*, 4 Va. J. Crim. L. 1, 110 (2016); Paul C. Giannelli, *Forensic Science: Daubert’s Failure*, 68 CASE W. RES. L. REV. 869, 937 (2018).

<sup>4</sup> Garrett, *supra* note 1 at 1563–64.

Moreover, at least 38 states and the District of Columbia have adopted Rule 702 or functional equivalents. This is significant because virtually all violent crime is prosecuted in state courts, which, similar to federal courts, have failed to apply Rule 702 to exclude unvalidated, untested, or exaggerated “scientific” evidence.<sup>5</sup> The breakdown in the judicial gatekeeping function has resulted in widespread acceptance, in those state courts, of forensic techniques that the scientific community has rejected, largely based on similar reliance on pre-Rule 702 precedent and credentials of experts, rather than the reliability analysis that Rule 702 demands.<sup>6</sup>

That this Committee must amend FRE 702 to enable and encourage courts to faithfully execute their gatekeeping responsibility is made manifest by wrongful convictions attributable to the introduction of techniques both the NAS Report and the PCAST Report found fundamentally unreliable or lacking sufficient empirical testing. Indeed, nearly half of all wrongful convictions proven by post-conviction DNA evidence involve the misapplication of forensic sciences. In a wide range of these cases, experts overstated and overstated science during their trial testimony, as well as used inadequately tested or unvalidated and unreliable methods that should not have survived gatekeeping analysis.<sup>7</sup>

### **Forensic Evidence Has Significant Persuasive Power Over Juries.**

Forensic evidence plays a prominent role in the United States criminal justice system. Not only is its use widespread, the outsized role forensics have played in convicting the innocent demonstrates that even baseless “scientific” evidence has a uniquely persuasive impact on juries. Accordingly, where misleading, mistaken, untested, or unreliable forensic evidence is admitted at a criminal trial, there is a serious risk that juries will overvalue this evidence and convict innocent people of crimes they did not commit.

There are several reasons why jurors are highly persuaded by expert forensic testimony, even when it is flawed. *First*, jurors grant special deference to experts because they have difficulty interpreting and evaluating forensic evidence and instead rely on the expert’s background and experience to validate their testimony. *Second*, jurors believe that the court has reviewed the scientific evidence before admission and determined it to be trustworthy. *Finally*, jurors have false perceptions of rates of error of scientific methodologies, such as hair microscopy.<sup>8</sup>

The more than seventy wrongful convictions attributable, at least in part, to the introduction of hair microscopy evidence amply demonstrate the profound effect scientifically questionable forensic evidence can have on juries.<sup>9</sup> For example, numerous cases overturning wrongful

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<sup>5</sup> *Id.* (finding that courts in criminal cases almost never apply the reliability prongs of their states’ equivalents of Fed. R. Evid. 702); Jennifer L. Groscup et al., *The Effects of Daubert on the Admissibility of Expert Testimony in State and Federal Criminal Cases*, 8 PSYCHOL. PUB. POL’Y & L. 339, 344–46, 352, 358 (2002).

<sup>6</sup> *See, e.g.*, Nat’l Research Council of the Nat’l Acad. of Sciences, *Strengthening Forensic Science in the United States: A Path Forward* (2009) (“NAS Report”); President’s Council of Advisors on Science & Tech., *Report to the President: Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* (Sept. 2016) (“PCAST Report”).

<sup>7</sup> Innocence Project, *Overturning Wrongful Convictions Involving Misapplied Forensics* (2020), <https://www.innocenceproject.org/overturning-wrongful-convictions-involving-flawed-forensics/>.

<sup>8</sup> *See, e.g.*, *U.S. v. Frazier*, 387 F.3d 1244, 1263 (11th Cir. 2005); *State v. Krause*, No. 2 CA-CR 2015-0326-PR, 2015 WL 7301820, at \*5 (Ariz. Ct. App. Nov. 19, 2015) (“[C]ourts have recognized that jurors may give significant weight to scientific evidence.”); *R. v. Mohan*, [1994] 2 S.C.R. 9, 21 (Can.) (“[d]ressed up in scientific language which the jury does not easily understand and submitted through a witness of impressive antecedents, this evidence is apt to be accepted by the jury as being virtually infallible and as having more weight than it deserves.”).

<sup>9</sup> *See* Fabricant, *supra* note 3 at 80.

convictions were premised in part on hair microscopy evidence, demonstrating that jurors are prone to afford weight to such evidence even when inaccurate. In many of those cases, the hair microscopy evidence was later demonstrably proven to be wrong or generally discredited.<sup>10</sup> But this phenomenon is not limited to hair microscopy—numerous other types of invalid scientific evidence and related “expert” testimony have caused similar injustices, including in the areas of “bite mark” evidence, comparative bullet lead analysis, and fire artifact analysis.<sup>11</sup>

### **Jurors Expect that Forensic Evidence has Passed Through a Judicial Filter.**

An unintended consequence of the courts’ gatekeeping role is that when judges admit expert testimony, it acquires additional persuasive impact because it has passed through a judicial filter.<sup>12</sup> This phenomenon has been termed the “gatekeeper effect.”<sup>13</sup> As discussed, lay fact finders are typically ill-equipped to critically evaluate scientific evidence and instead rely on institutional cues of validity, including the simple fact that such testimony was admitted by a judge.<sup>14</sup> Indeed, research shows that the primary predictor of jurors’ views on the persuasiveness and quality of evidence is whether or not it was admitted into evidence; neither the absence of any rigorous scientific foundation for the evidence nor the credibility of the source affected the persuasiveness of the evidence.<sup>15</sup> “[J]urors assume too much about the quality of scientific evidence presented at trials. Specifically, jurors assume that judges review scientific evidence before it is presented to them, and that any evidence used in a trial must be above some threshold of quality.”<sup>16</sup> Even within jurisdictions that follow *Daubert*, there is reason to believe that judges may not appropriately screen expert evidence, particularly in criminal cases.<sup>17</sup>

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<sup>10</sup> NACDL, *Microscopic Hair Comparison Review Project* (2018), <https://www.nacdl.org/haircomparison/>.

<sup>11</sup> Multiple examples display the serious consequences of convictions based on junk science. *See e.g.* Curt Anderson, Robert DuBoise exonerated: DNA evidence clears Tampa man of rape, murder after 37 years, *The Ledger* (September 14, 2020), <https://www.theledger.com/story/news/crime/2020/09/14/tampa-robert-duboise-exonerated-murder-rape-dna-evidence-florida-prison-innocence-project/5793244002/>; *Ex parte Gandy*, No. WR-22,074-10 (Tex. Crim. App. May 8, 2019); David Owens & Dave Altimari, *Murder Charge Dismissed Against Alfred Swinton, Man Who Served 18 Years After Wrongful Conviction*, *Hartford Courant* (March 1, 2019), <https://www.courant.com/news/connecticut/hc-alfred-swinton-freed-20180301-story.html>; *see also* Paul C. Giannelli, *Comparative Bullet Lead Analysis: A Retrospective*, 47 *Crim. Law Bull.* 306 (2010); National Fire Protection Association, *Guide for Fire and Explosion Investigations* (2021), <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=921>; Paul Bieber, *Anatomy of a Wrongful Arson Conviction*, National Association of Fire Investigators (2017), <https://www.nafi.org/blog/anatomy-of-a-wrongful-arson-conviction/>; 60 Minutes, *Evidence of Injustice* (2007), <https://www.cbsnews.com/news/evidence-of-injustice/>.

<sup>12</sup> *See* N.J. Schweitzer & Michael J. Saks, *The Gatekeeper Effect: The Impact of Judges’ Admissibility Decisions on the Persuasiveness of Expert Testimony*, 15 *Psychol., Pub. Pol’y, & L.* 1, 2 (2009).

<sup>13</sup> *Id.* at 4.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.* at 8.

<sup>16</sup> *Id.* at 12.

<sup>17</sup> *Id.*

## **Jurors Place Undue Weight on Experts' Background and Experience to Evaluate Their Testimony.**

Lay jurors are unlikely to fully understand the scientific principles behind forensic evidence, leading them to grant special deference to the expert's testimony.<sup>18</sup> Scholars have observed that at trial many juries tend to uncritically accept the testimony of forensic experts even when they should not.<sup>19</sup> Indeed, interviews of jurors have revealed that, in cases where the physical evidence seemed contradictory and inconsistent, some jurors have based guilty verdicts on their beliefs that "CSI-types know what they're doing—they can solve anything . . ." <sup>20</sup>

Because of the difficulty in evaluating scientific evidence, jurors use certain cues, beyond the substance of the testimony, to determine validity. For example, jurors rely on experts' background and experience, as presented at trial, to determine the meaning and value of the scientific evidence, rather than the evidence itself.<sup>21</sup> However, "these cues are problematic because it is not clear that a more impressive sounding background or more case experience provide a valid indicator of greater expertise or accuracy."<sup>22</sup> In fact, in several forensic science fields, literature indicates that there is little or no relationship between an expert's experience and his or her accuracy in identification.<sup>23</sup> And what is in fact an essential factor for scientists in determining a method's trustworthiness—whether it has been scientifically tested—does not seem to affect jurors' evaluation of the probative value of the evidence.<sup>24</sup>

## **Conclusion**

Scientific evidence is a powerful tool. When such evidence is appropriately screened by courts, the truth-seeking function of the justice system is well served. However, as documented above, when courts fail in their gatekeeping responsibilities and admit unreliable, inadequately tested, or misleading evidence, the opposite happens; truth is obscured. Innocent lives—disproportionally the lives of Black and brown people—are put at risk, and the legitimacy of our legal system is diminished. We believe more guidance is required for federal courts—and ultimately state courts—to ensure the fair administration of justice.

An amended Rule and additional Advisory Committee Notes will send a strong message to the courts: FRE 702 is not working as intended. Courts have continued to admit evidence that is unreliable or inadequately tested and allow exaggerated claims of the probative value of such evidence, leading directly to wrongful convictions and otherwise corrupting the truth-seeking

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<sup>18</sup> See Geoffrey M. Pipoly, *Daubert Rises: The (Re)applicability of the Daubert Factors to the Scope of Forensics Testimony*, 96 Minn. L. Rev. 1581, 1601–02 (2012) ("The scope of an expert witness's testimony is significant, principally because jurors tend to defer to experts . . .").

<sup>19</sup> See, e.g., Kit R. Roane & Dan Morrison, *The CSI Effect*, 138 U.S. News & World Report 15, 2005 WLNR 25563240, at \*3 (Apr. 25, 2005); Kimberlianne Podlas, "The CSI Effect": *Exposing the Media Myth*, 16 Fordham Intell. Prop. Media & Ent. L.J. 429, 437–38 (2005); Mark A. Godsey & Marie Alou, *She Blinded Me With Science: Wrongful Convictions and the "Reverse CSI-Effect"*, 17 Tex. Wesleyan L. Rev. 481, 483–84 (2011).

<sup>20</sup> See Godsey, *supra* note 19 at 496–97 (internal quotation marks omitted).

<sup>21</sup> Jonathan J. Koehler et al., *Science, Technology, or the Expert Witness: What Influences Jurors' Judgments About Forensic Science Testimony?*, 22 Psychol., Pub. Pol'y, & L. 401, 410 (2016); see also David L. Faigman et al., *Modern Scientific Evidence: The Law & Science of Expert Testimony* (1997) (when an expert "bases [an] opinion on 'years of experience' the practical result is that the witness is immunized against effective cross examination").

<sup>22</sup> Koehler, *supra* note 21 at 410.

<sup>23</sup> *Id.*

<sup>24</sup> *Id.* at 411.

function of criminal trials. Accordingly, the undersigned organizations urge the Committee to amend Rule 702, along with the proposed notes.

Should the Committee have any questions or like additional resources on this issue, please contact Chris Fabricant ([cfabricant@innocenceproject.org](mailto:cfabricant@innocenceproject.org)), Shana-Tara O'Toole ([shana@idueprocess.org](mailto:shana@idueprocess.org)), or Professor Brandon Garrett ([bgarrett@law.duke.edu](mailto:bgarrett@law.duke.edu)).

Sincerely,

Academy for Justice at the Arizona State University Sandra Day O'Connor College of Law  
American Civil Liberties Union  
Black Public Defender Association  
The Bronx Defenders  
Center for Justice Research at Texas Southern University  
Center for Integrity in Forensic Sciences  
Computational Justice Lab at Claremont Graduate University  
Due Process Institute  
Fair and Just Prosecution  
Federal Public and Community Defenders  
Forensic Justice Project  
Innocence Project  
The Legal Aid Society  
NAACP Legal Defense and Educational Fund, Inc.  
Public Defender Service for the District of Columbia  
Quattrone Center for the Fair Administration of Justice at the University of Pennsylvania  
Carey Law School  
Reason Foundation  
Southern Center for Human Rights  
Wilson Center for Science and Justice at Duke University School of Law