

FORENSIC EVIDENCE IN WRONGFUL CONVICTION CASES:  
FROM BEING A RIGHT-HAND MAN TO BECOMING A SNAKE  
IN THE GRASS

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I. INTRODUCTION

This article examines the admissibility<sup>1</sup> and reliability<sup>2</sup> of forensic science in the courtroom. I will discuss false or misleading forensic evidence in wrongful conviction cases. In addition, I will examine when an “[e]xoneree’s conviction was based at least in part on forensic information that was (1) caused by errors in forensic testing, (2) based on unreliable or unproven methods, (3) expressed with exaggerated and misleading confidence, [and/]or (4) fraudulent.”<sup>3</sup> It is known that during trials, the presence of forensic evidence that either supports or eliminates the defendant’s part in a crime is a powerful factor.<sup>4</sup> Some scholars even consider forensic evidence to be

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<sup>1</sup> See *Admissible Evidence*, CORNELL LEGAL INFO. INST., [https://www.law.cornell.edu/wex/admissible\\_evidence](https://www.law.cornell.edu/wex/admissible_evidence) (last visited Feb. 7, 2018) (“Evidence that is formally presented before the trier of fact (*i.e.*, the judge or jury) to consider in deciding the case. The trial court judge determines whether or not the evidence may be proffered. To be admissible in court, the evidence must be relevant (*i.e.*, material and having probative value) and not outweighed by countervailing considerations (*e.g.*, the evidence is unfairly prejudicial, confusing, a waste of time, privileged, or based on hearsay). Also termed *competent evidence*; *proper evidence*; *legal evidence*.”).

<sup>2</sup> See *Reliability*, OXFORD DICTIONARIES, <https://en.oxforddictionaries.com/definition/reliability> (last visited Feb. 7, 2018) (“The quality of being trustworthy.”).

<sup>3</sup> See *Glossary*, NAT’L REGISTRY EXONERATION, <https://www.law.umich.edu/special/exoneration/Pages/glossary.aspx#FMFE> (last visited Feb. 7, 2018).

<sup>4</sup> See, *e.g.*, *Scientific and Forensic Evidence*, FINDLAW, <http://criminal.findlaw.com/criminal-procedure/scientific-and-forensic-evidence.html> (last visited Feb. 7, 2018).

the judge behind the scene, whose “real evidence”<sup>5</sup> is the final proof.<sup>6</sup> However, as forensic testimony has gained value, the presence of wrongful convictions has shaken its reputation—in particular, whether the forensic evidence should be relied upon as before.<sup>7</sup> Therefore, this article will discuss the shifting role of forensic science in the courtroom, particularly, when forensic science, the initial role of which was to help serve justice by being its right hand, can also cause miscarriages of justice and become a snake in the grass.

## II. DEFINING THE PROBLEM

Forensic science is one of the types of hard sciences, used specifically to solve crimes. Since it affects an individual’s future, and whether he or she will be found guilty or innocent, its reliability and admissibility can be detrimental.<sup>8</sup> However, it may be unclear which of those two aspects comes first and causes the other. In particular, “[a] method is unreliable if it does not produce consistent or accurate results.’ . . . [A] process can be more reliable than it is valid - it can produce consistent results at a greater rate than it produces accurate results”.<sup>9</sup> Such a definition implies that forensic science can definitely achieve consistent results more often than accurate results. However, the definition also hints at the fact that forensic experts may consider incorrect, but consistent, results as accurate.<sup>10</sup> Therefore, the confidence of forensic experts in their results—presented as expert testimony—sometimes leads to wrongful convictions.<sup>11</sup>

According to the Innocence Project, because forensic science is so blindly referenced and relied on in the courtroom, it “is the second most common contributing factor to wrongful convictions” in DNA

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<sup>5</sup> See *What Is “Real Evidence”? Is It the Same Thing as “Physical Evidence”?*, ROTTENSTEIN L. GROUP LLP, <http://www.rotlaw.com/legal-library/what-is-real-evidence-is-it-the-same-thin-g-as-physical-evidence/> (last visited Feb. 8, 2018) (“[R]eal Evidence’ describes any evidence that is a tangible object, as opposed [to] oral testimony or documentary evidence, which records information that is offered as evidence.”).

<sup>6</sup> See Simon A. Cole, *Forensic Science and Wrongful Convictions: From Exposer to Contributor to Corrector*, 46 NEW ENG. L. REV. 711, 715 (2012); John M. Collins & Jay Jarvis, *The Wrongful Conviction of Forensic Science*, 1 FORENSIC SCI. POLY AND MGMT. 17, 23 (2009).

<sup>7</sup> See Collins & Jarvis, *supra* note 6, at 19.

<sup>8</sup> See *id.* at 24.

<sup>9</sup> See Cole, *supra* note 6, at 720–21.

<sup>10</sup> See *e.g.*, *id.* at 722.

<sup>11</sup> See Cole, *supra* note 6, at 723; *Misapplication of Forensic Science*, INNOCENCE PROJECT, <https://www.innocenceproject.org/causes/misapplication-forensic-science/> (last visited Feb. 8, 2018); *What Is “Real Evidence”? Is It the Same Thing as “Physical Evidence”?*, *supra* note 5.

cases.<sup>12</sup> In particular, it accounts for roughly forty-five percent of wrongful conviction cases.<sup>13</sup> This data is very troubling since it clearly points to the fact that even in the present day, considering all the innovative tools and technologies used in forensic labs, lab results can still be heavily flawed. In addition, considering this data, experts and researchers in the forensic and legal field believe that the role of forensic science in the courtroom as a right-hand man has shifted to being a snake in the grass.

Going forward in examining the aspects of errors in forensic evidence which caused wrongful conviction, the Innocence Project has identified three factors among them: (1) use of untested methods and techniques, (2) expert testimony which lacks empirical data, and (3) knowing presentation of fraudulent forensic results.

### III. ERRORS CAUSED BY UNRELIABLE OR UNPROVEN METHODS AND TECHNIQUES

When it comes to the use of untested methods and techniques, forensic science analysts and experts are blamed for utilizing “disciplines or techniques that have not been tested to establish their validity and reliability.”<sup>14</sup> A study conducted in 1978, examining the quality of work done in forensic science laboratories, found that among the mistakes committed when examining evidence was that labs utilized their own methods, whether they were proven to be accurate or not.<sup>15</sup> Such was the case with bite marks when forensic experts made assertions about the bite mark and its “owner” even if at that time there was “no science of bite mark analysis.”<sup>16</sup> Therefore, it is no surprise that in the study, the tested laboratories have given different results from each other on the same evidence.<sup>17</sup> Clearly, there was a need for precise criteria for which techniques are considered and known to provide accurate data.

To achieve this, in 1993 the U.S. Supreme Court determined in

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<sup>12</sup> See *Misapplication of Forensic Science*, *supra* note 11; accord *Collins & Jarvis*, *supra* note 6, at 20.

<sup>13</sup> See *Misapplication of Forensic Science*, *supra* note 11; compare Innocence Staff, Op-Ed, *Department of Justice is Obstructing Forensic Science Reform*, INNOCENCE PROJECT (July 6, 2017), <https://www.innocenceproject.org/departments-justice-obstructing-forensic-science-reform/> (noting forty-six percent).

<sup>14</sup> See *Forensic Problems and Wrongful Convictions*, INNOCENCE PROJECT (Feb. 18, 2009), <https://www.innocenceproject.org/forensic-problems-and-wrongful-convictions/>.

<sup>15</sup> Randolph N. Jonakait, *Forensic Science: The Need for Regulation*, 4 HARV. J.L. & TECH. 109, 137, 157 n.181 (1991).

<sup>16</sup> *Id.* at 141.

<sup>17</sup> See *Id.* at 158 n.184.

*Daubert v. Merrell Dow Pharmaceuticals, Inc.*<sup>18</sup> the criteria with which to evaluate the reliability of forensic-science expert testimony and the techniques forensic experts used to come to their conclusions.<sup>19</sup> The most significant requirement for forensic evidence experts utilizing a technique and establishing conclusions based on it is whether the technique has been “sufficiently tested”<sup>20</sup> and “whether it has attracted widespread acceptance within a relevant scientific community.”<sup>21</sup> Utilizing what is now known as *Daubert* criteria, the Supreme Court wanted to eliminate or at least reduce the use of “‘junk science’ in the courtroom”<sup>22</sup> in both civil and criminal cases because its use undermines the role of the forensic science.<sup>23</sup>

Moving away from the traditional understanding of forensic science, the idea that the results are gathered in laboratories is far from accurate. According to the National Registry of Exonerations Report, when it comes to drug crimes, the found material that is assumed to be a drug is tested by the police using drug field tests which are “notoriously unreliable,” even though they were created by forensic experts to deal with case overload.<sup>24</sup> However, they are enough to influence defendants to admit guilt even if they might be innocent.<sup>25</sup>

Besides utilizing unproven methods or techniques for analyzing evidence, it is just as important to have a well-prepared environment in the laboratory to obtain accurate results. A well-prepared environment encompasses a wide range of factors, from following sanitary regulations to having trained and honest leadership and personnel. However, this was not the case when the forensic lab experts received evidence for the case of Josiah Sutton.<sup>26</sup> Upon lab

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<sup>18</sup> *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993).

<sup>19</sup> *See id.* at 597.

<sup>20</sup> *See, e.g.*, Paul C. Giannelli, *The Use and Misuse of Forensic Evidence: Admissibility of Scientific Evidence*, 28 OKLA. CITY U.L. REV. 1, 3, 12 n.52 (2003).

<sup>21</sup> Angi M. Christensen et al., *Error and Its Meaning in Forensic Science*, 59 J. FORENSIC SCI. 123, 123 (2014).

<sup>22</sup> Henry F. Fradella et al., *The Impact of Daubert on Forensic Science*, 31 PEPP. L. REV. 323, 325 (2004).

<sup>23</sup> Kathleen Keough Griebel, *Fred Zain, the CSI Effect, and a Philosophical Idea of Justice: Using West Virginia as a Model for Change*, 114 W. VA. L. REV. 1155, 1160 (2012).

<sup>24</sup> NAT'L REGISTRY EXONERATION, EXONERATIONS IN 2016 at 8, 9 (Mar. 7, 2017), [https://www.law.umich.edu/special/exoneration/Documents/Exonerations\\_in\\_2016.pdf](https://www.law.umich.edu/special/exoneration/Documents/Exonerations_in_2016.pdf).

<sup>25</sup> *See id.* at 9.

<sup>26</sup> Sutton was wrongly convicted for rape in Texas and sentenced to twenty-five years. *See Josiah Sutton*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/josiah-sutton/> (last visited Jan. 19, 2017). When the police collected blood and saliva for sample, the forensic testimony states that Sutton's blood and saliva was an exact match to the semen found at the crime scene. *Id.* After secondary investigation into the case, another forensic science expert, who took the evidence and retested it, found that the testing procedures were done wrong. *Id.*

investigation, the officials found that there were myriad sanitary violations including that “[e]vidence in storage freezers was not properly sealed. It could not be established whether forensic workers wore gloves and lab coats.” In other words, there was a high risk of evidence contamination which led to the laboratory closedown.<sup>27</sup>

Ironically, during the investigation, it was found that the director of the laboratory lied that “he had a PhD in biochemistry from the University of Texas.”<sup>28</sup> This case is illustrative. It shows that the whole laboratory, going from the director down to the staff members, was seriously unprofessional. In addition, this means that if there had been no secondary investigation to Sutton’s case, the laboratory would have still been open, “solving” other crimes.<sup>29</sup> Further, the laboratory was shut down only after the officials conducted an audit of the lab, meaning that only experts could find out whether other forensic experts and their staff were violating any regulations. Therefore, the lack of knowledge in the field of forensic science, including that of jurors, can lead to erroneous mistakes.<sup>30</sup>

Even though there is a heavy load of studies that conclude that forensic science has led to wrongful convictions by using unreliable or unproven methods,<sup>31</sup> some of the authors point out that such conclusions may be inaccurate<sup>32</sup> due to the evidence found at the crime scene. Specifically, potential wrongful conviction cases had to include biological evidence on which the defendant’s conviction was based.<sup>33</sup> In addition, the crime had to be “serious enough that it yielded a sentence severe enough that the convict had an incentive to pursue post-conviction DNA testing” and after secondary analysis of the evidence, it would be found that the defendant was in fact wrongly convicted.<sup>34</sup> As a result, cases where the defendant was charged with a felony would fall under this umbrella. Therefore, it may seem that a majority of wrongful conviction cases are those that

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In addition, when the officials looked into the lab itself, where the evidence were tested, they have found that it had a myriad of issues “ranging from untrained staff to contamination of evidence.” *See id.*

<sup>27</sup> See Roger Koppl, *How to Improve Forensic Science*, 20 EUR. J.L. & ECON. 255, 276–77 (2005).

<sup>28</sup> *Id.* at 277.

<sup>29</sup> See *Josiah Sutton*, *supra* note 26.

<sup>30</sup> See Koppl, *supra* note 27, at 277.

<sup>31</sup> See, e.g., Itiel E. Dror et al., *Contextual Information Renders Experts Vulnerable to Making Erroneous Identifications*, 156 FORENSIC SCI. INT’L 74, 75 (2006).

<sup>32</sup> See Cole, *supra* note 6, at 733, 735; Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1, 97 (2009).

<sup>33</sup> See Cole, *supra* note 6, at 726, 727.

<sup>34</sup> See *id.* at 727.

involve murder, sex crimes, or both, even though there might be overlooked cases involving less serious offenses where the forensic science has utilized unproven or unreliable methods.<sup>35</sup>

When it comes to biological evidence that requires the use of serology, blood, or hair sample tests,<sup>36</sup> due to the discriminatory results gained from the tests, the results may be incorrectly interpreted as inculpatory evidence against the defendant.<sup>37</sup> Marion Coakley's case is illustrative.<sup>38</sup> Coakley was wrongly convicted of rape due to incorrect forensic evidence testing and after involving the Innocence Project, which conducted a secondary DNA analysis, he was exonerated.<sup>39</sup> The issue with the forensic test results that found Coakley guilty is that they did not compare the blood elements of Coakley's semen and that of the semen found at the crime scene.<sup>40</sup> Further, Coakley's attorney on appeal, Barry Scheck, founder of the Innocence Project, had taken on the case when he learned about the new method of identifying the perpetrator "DNA typing" which back then was practiced in England.<sup>41</sup> This case heavily relied upon forensic evidence and expert testimony, yet it led to a miscarriage of justice. In other words, it is not always known whether the methods and tests utilized by forensic experts are appropriate for the evidence available, which undermines the reliability of the forensic evidence in the courtroom.

Further, the crime scene may include evidence such as hair samples, which is not solid enough evidence to rely upon for reaching

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<sup>35</sup> See NAT'L REGISTRY EXONERATION, *supra* note 24, at 1, 5, 6, 9.

<sup>36</sup> See Lisa Gefrides & Katie Welch, *Forensic Biology: Serology and DNA*, in THE FORENSIC LABORATORY HANDBOOK PROCEEDINGS AND PRACTICE 15, 16, 17 (Ashraf Mozayani & Carla Noziglia eds., 2nd ed. 2011).

<sup>37</sup> See Cole, *supra* note 6 at 726–27.

<sup>38</sup> *Wrongly Convicted Database Record: Marion Coakley*, FOREJUSTICE, <http://forejustice.org/db/Coakley—Marion-.html> (last visited Feb. 14, 2018) (“Marion Coakley was wrongly convicted in June 1985 of raping a woman in a New York City motel room the autumn of 1983. The woman, her male companion who was locked in the bathroom during the assault, and the woman's brother all identified Coakley as the assailant. The jury rejected Marion Coakley's three alibi witnesses that included a minister, who testified that at the time of the rape he was four miles away, attending a Bible study meeting near his home in the Mott Haven section of the Bronx. Coakley was sentenced to five to fifteen years in prison. A blood test after his conviction established Coakley's blood type 'A' was different than the attacker's type 'B' blood. Coakley filed a motion for a new trial based on the new evidence he had a different blood type than the assailant. He was released on own recognizance on September 29, 1987, and the charges were later dismissed after Coakley had been incarcerated for four years.”).

<sup>39</sup> See Jane Gitschier, *The Innocence Project at Twenty: An Interview with Barry Scheck*, 9 PLOS GENETICS, no. 1, Aug. 2013, at 1.

<sup>40</sup> See Selwyn Raab, *26 Months in a Prison, Wrongly*, N.Y. TIMES (Dec. 16, 1987), <http://www.nytimes.com/1987/12/16/nyregion/26-months-in-a-prison-wrongly.html>.

<sup>41</sup> See Elisabeth Salemme, *Innocence Project Marks 15th Year*, TIME (June 5, 2007), <http://content.time.com/time/nation/article/0,8599,1628477,00.html>.

convictions, but which creates expert testimony that may sound plausible.<sup>42</sup> The FBI, along with the Innocence Project, has found that out “[o]f 28 examiners with the FBI Laboratory’s microscopic hair comparison unit, 26 overstated forensic matches in ways that favored prosecutors in more than 95 percent of the 268 trials reviewed so far.”<sup>43</sup> Therefore, officials have continued to review all past cases to identify if there are any more cases and whether these mistakes have significantly impacted the cases’ sentencing, especially for those who have been sentenced to death.<sup>44</sup> This shows that when it comes to identifying past mistakes, it is necessary to include independent reviewers to achieve the most accurate results and take necessary steps to eliminate unreliable forensic science in the courtroom.

#### IV. EXAGGERATED AND MISLEADING CONFIDENCE

Conducting faulty or improper tests and getting incorrect results may lead to a wrongful conviction. However, exaggerated or misleading confidence during testimony based on such reports may also significantly influence juries, even causing them to convict the innocent.<sup>45</sup> Such was the case with Gary Dotson.<sup>46</sup> Specifically, when Edward Blake examined the DNA of the victim and other evidence used to convict Dotson, he found that the analyst made a mistake in his testimony.<sup>47</sup> In the initial expert testimony, “it was misleading to suggest to the jury that a subset (11%) of the population including Dotson could have been the donor and imply that 89% of the population was excluded.”<sup>48</sup> The more accurate version of the testimony in Dotson’s case would be to state that “any male could have been the donor” since the available methods and techniques

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<sup>42</sup> See Spencer S. Hsu, *FBI Admits Flaws in Hair Analysis over Decades*, WASH. POST (Apr. 18, 2015), [https://www.washingtonpost.com/local/crime/fbi-overstated-forensic-hair-matches-in-nearly-all-criminal-trials-for-decades/2015/04/18/39c8d8c6-e515-11e4-b510-962fcfab310\\_story.html?utm\\_term=.5a93eb1f6ebb](https://www.washingtonpost.com/local/crime/fbi-overstated-forensic-hair-matches-in-nearly-all-criminal-trials-for-decades/2015/04/18/39c8d8c6-e515-11e4-b510-962fcfab310_story.html?utm_term=.5a93eb1f6ebb). See also Paul C. Giannelli, *Forensic Science: Daubert’s Failure*, 59 CASE W. RES. L. REV. 1, 13–14 (discussing cases where defendants were convicted based on the testimony of forensic scientists relying on incorrect and unreliable hair sample forensic tests).

<sup>43</sup> Hsu, *supra* note 42.

<sup>44</sup> See *FBI Agents Gave Erroneous Testimony in at Least 90% of Microscopic Hair Analysis Cases*, INNOCENCE PROJECT (Apr. 20, 2015), <https://www.innocenceproject.org/fbi-agents-gave-erroneous-testimony-in-at-least-90-of-microscopic-hair-analysis-cases/>.

<sup>45</sup> See Cole, *supra* note 6, at 718; Garrett & Neufeld, *supra* note 32, at 4.

<sup>46</sup> See Garrett & Neufeld, *supra* note 32, at 4.

<sup>47</sup> See *id.*

<sup>48</sup> *Id.* at 4–5.

were quite limited.<sup>49</sup> In addition, with more advanced technology in the 1980's, Blake ultimately found that the DNA results belonged to the victim's boyfriend.<sup>50</sup> As mentioned above, the downside of some of the forensic science methods and techniques is that they may provide information that will only point at a percentage of the population that have the same DNA strips,<sup>51</sup> while failing to provide proof that the defendant is the perpetrator. Therefore, there is a risk that forensic experts will exaggerate their testimony and mislead the court in order to attribute at least some value to their test results.

Further, some researchers note that forensic experts tend to "exaggerate or distort the probative value" pointing to the defendant as perpetrator.<sup>52</sup> However, the final word lies with the courts, which may tend to accept such exaggerated testimonies and even base verdicts on expert testimony.<sup>53</sup> We are not aware of how often such instances occur, but we know that criminal cases exist that were miscarriages of justice due to the courts' over-reliance on forensic science reports.<sup>54</sup>

However, the issue has to be viewed from both sides of the coin. On one side, we have the forensic science experts and their testimonies<sup>55</sup>, and on the other, the courts, including the jury's confidence in the forensic expert's testimony.<sup>56</sup> Both, due to their inherent subjectivity relating to case details and the field of forensic science, may cause wrongful convictions. As a result, when it comes to secondary review of the case, people's perception of the accuracy of forensic results will not fully encompass the possibility of forensic science's exaggerated or misleading creation of inculpatory evidence. There is an argument to be made that the field of forensic science suffers from profound risks of inaccuracy and bias.

To examine whether forensic experts do have a flaw in their procedures and testimonies, one of the first and most significant studies conducted experimented with volunteer forensic experts on fingerprint identification.<sup>57</sup> They argue that forensic experts are

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<sup>49</sup> *Id.* at 4.

<sup>50</sup> Affidavit of Edward T. Blake at 25, *Illinois v. Dotson*, 516 N.E.2d 718 (Ill. App. Ct.1987) (No. 85-035).

<sup>51</sup> See Garrett & Neufeld, *supra* note 32, at 4.

<sup>52</sup> See Cole, *supra* note 6, at 728.

<sup>53</sup> See *id.*

<sup>54</sup> See *id.*

<sup>55</sup> See, e.g., Dror et al., *supra* note 31, at 74, 75.

<sup>56</sup> See, e.g., Brad Smith et al., *How Justice System Officials View Wrongful Convictions*, 57 CRIME & DELINQ. 663, 664, 665 (2011).

<sup>57</sup> Dror et al., *supra* note 31, at 75.



susceptible to “contextual influence” of the case on their testimony.<sup>58</sup> Even if there were only five participants, the results are significant enough to make conclusions on whether forensic science is one of the most reliable and admissible sources for deciding in criminal cases.<sup>59</sup> Specifically, authors conclude that, by extrapolating from their data, there are about ten percent of forensic experts who “were susceptible to misleading extraneous contextual information.”<sup>60</sup> This shows that forensic expert testimony has a risk of being exaggerated or misleading and one of the reasons being is that they are subjective to the summary of the case.

Thus, it is necessary to find out what sources reach out to the forensic science experts and provide details of the case, thereby, making them subjective. A relevant study examined the officials’—police, prosecutors, judges, defense attorneys—perceptions of wrongful convictions, what causes them, and how common they are.<sup>61</sup> Among the questions asked of the officials, one was how reliable forensic science was in the courtroom, such that “[p]olice and prosecutors together are significantly more confident in forensic expert reliability (very reliable) than are defense attorneys and judges.”<sup>62</sup> Thereafter, a further examination of the susceptibility of forensic experts to contextual bias was conducted by the National Academy of Sciences which found that for the forensic labs to provide more accurate and reliable results, it was necessary to separate them from the police.<sup>63</sup> In other words, according to both studies, since police view forensic experts to be reliable, they are likely to provide

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<sup>58</sup> *Id.* To examine whether this is true, the Dror study found five volunteer forensic experts who were from the United States, the UK, Israel, The Netherlands and Australia. *Id.* In total confidentiality from the participants, researchers gathered fingerprints from previous cases which the expert participants have found to be a match years prior. *Id.* In addition, independent forensic experts have reviewed the picked fingerprints for the experiments and also found them to be a match. *Id.* The experiment itself consisted of having these fingerprints given to the participants to declare whether they are a match or a no match at one point in time, without them being aware that they are being studied. *Id.* at 75, 76. Plus, to the two sets of fingerprints at separate occasions, they were given two scenarios, stated to be the facts of a real case, one which hinted that the defendant is guilty and another where the defendant was innocent. *Id.* at 76. The findings were astonishing. Among the five participants, only one forensic expert gave an accurate result on the fingerprints. *Id.* Out of the four, one stated that he is not sure whether the fingerprints are a match and three have completely changed their initial report. *Id.*

<sup>59</sup> *See id.*

<sup>60</sup> *Id.*

<sup>61</sup> *See* Smith et al., *supra* note 56, at 664.

<sup>62</sup> *Id.* at 677.

<sup>63</sup> *Cf.* NAT’L RESEARCH COUNCIL, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 16 (2009) (noting the need for strong and independent governance).

the evidence for testing along with the details of the case.<sup>64</sup> As a result, there can be forensic experts may exaggerate or have misleading testimony presented in the courtroom.

Nevertheless, the accuracy and reliability of the forensic experts' reports and testimonies are judged by the jury. Because of this, it is just as important to identify whether the public is able to recognize the potential "snake in the grass" tendencies of forensic evidence. Speaking of juries, there is a term that is being associated with them, known as the "CSI Effect."<sup>65</sup> According to the definition, jurors, who often watch criminal investigation television shows,<sup>66</sup> are prone to have high expectations from the forensic experts.<sup>67</sup> Specifically, they might "have higher, unrealistic standards and expectations about the capabilities of forensic science, conclusiveness of scientific results, and type of evidence traditionally available during criminal trials."<sup>68</sup> As a result, when it comes to expert testimony, if it is highly exaggerated and contains vague information about the procedures of examining the evidence, then juries are likely to believe the expert.

In addition, the jury may exhibit a "perception of the near-infallibility of forensic science" due to television shows which almost always solve the criminal case using high-tech equipment.<sup>69</sup> As a result, when it comes to expert testimonies, they are less likely to expect exaggerated or misleading testimony from the expert, since they relate the expert to the TV show they have watched, expecting that he has done the procedures just as properly as in the TV shows.<sup>70</sup>

However, when National Institute of Justice ("NIJ") conducted a study on whether the CSI Effect exists and whether it causes jurors to find the defendant most of the time guilty rather than innocent, they have come to results that contradict the CSI Effect phenomenon.<sup>71</sup> Specifically, even if they have found that "46 percent

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<sup>64</sup> See *id.*, at 123; Smith et al., *supra* note 56, at 665.

<sup>65</sup> See *CSI Effect*, CORNELL LEGAL INFO. INST., [https://www.law.cornell.edu/wex/csi\\_effect](https://www.law.cornell.edu/wex/csi_effect) (last visited Feb. 14, 2018) ("A phenomenon reported by prosecutors who claim that television shows based on scientific crime solving have made actual jurors reluctant to vote to convict when, as is typically true, forensic evidence is neither necessary nor available."); see also Renata Salecl, *Perversion and Forensic Science: Fraudulent Testimonies*, 78 SOC. RES. 887, 889 (2011) (describing the effect of popular television shows on the popularity of forensic science).

<sup>66</sup> See *CSI Effect*, *supra* note 65.

<sup>67</sup> Nicholas J. Schweitzer, & Michael J. Saks. *The CSI Effect: Popular Fiction About Forensic Science Affects the Public's Expectations About Real Forensic Science*, 47 JURIMETRICS 357, 358 (2007).

<sup>68</sup> Caroline L. Kinsey, *CSI: From the Television to the Courtroom*, 11 VA. SPORTS & ENT. L.J. 313, 318 (2012).

<sup>69</sup> *Id.* at 319.

<sup>70</sup> See *id.*

<sup>71</sup> Donald E. Shelton, *The 'CSI Effect': Does It Really Exist?*, NAT'L INST. OF JUST. (Mar.17,

expected to see some kind of scientific evidence in *every* criminal case,” it is more likely to be the jurors’ expectation that crime labs have innovative technology, as shown in the shows, called the “tech effect.”<sup>72</sup> However, the research implies that since jurors do not exhibit the CSI Effect, then they are not likely to find the defendant guilty simply because of the inclusion of persuasive forensic evidence that matches the evidence found at the crime scene.<sup>73</sup> Even if the study came to these results using surveys and mock trials, real criminal trials show otherwise, indicating concerning conviction trends.<sup>74</sup> In this case, Sutton’s case is illustrative.<sup>75</sup> During the trial, the forensic expert exaggerated the probability of Sutton being the perpetrator.<sup>76</sup> As a result, he was wrongly convicted and only after the involvement of the Innocence Project, was he finally freed.<sup>77</sup> This shows that not all studies can transcribe the real jury decisions and that they can potentially be clouded with exaggerated and misleading forensic science testimony. In other words, not all studies can identify the snake in the grass.

This affects judges as well. Consider the case of Amine Baba-Ali,<sup>78</sup> where a New York City Public Health Clinic doctor, Nadine Haddad

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2008), <https://www.nij.gov/journals/259/pages/csi-effect.aspx>.

<sup>72</sup> *Id.*

<sup>73</sup> *See id.*

<sup>74</sup> *See, e.g., Josiah Sutton, supra* note 26.

<sup>75</sup> *See id.* (“In 2004, Josiah Sutton was exonerated after serving four and a half years of a 25 year sentence for a rape he did not commit. Sutton’s conviction was the result of a mistaken identification and faulty scientific testing performed by the Houston police laboratory.”). In the expert testimony which was based on incorrect testing techniques, the expert stated that Sutton’s blood and saliva was an absolute match to the semen found at the crime scene. *Id.* “[Which meant] that only about 1 person in 694,000 could have deposited the material whereas in reality, 1 in 16 black men share this profile.” *Id.*

<sup>76</sup> *See id.*

<sup>77</sup> *See id.*

<sup>78</sup> *Wrongly Convicted Database Record: Amine Baba-Ali*, FOREJUSTICE, <http://forejustice.org/db/Baba-Ali—Amine.html> (last visited Feb. 15, 2018) (“Amine Baba-Ali was wrongly convicted on December 5, 1989 of rape, sodomy, sexual abuse, incest and endangering the welfare of his four-year-old daughter in 1987. During their acrimonious divorce, Baba-Ali’s wife accused him of sexually assaulting their daughter during visitation to his home in Queens, New York. Baba-Ali’s conviction was vacated by the New York Supreme Court’s Appellate Division on January 15, 1992 based on the [prosecutor’s] misconduct of concealing exculpatory medical evidence, and ineffective assistance of counsel by Baba-Ali’s lawyer who failed to call two doctors to testify at his trial who had examined the girl and determined there was no indication she had been sexually assaulted. Baba-Ali’s motion to dismiss the charges was unopposed by the Queens County DA’s Office. Thirteen years after his release, the NY Court of Appeals ruled on July 5, 2005 that his suit against the State of NY could proceed because, ‘The claimant demonstrated that this court’s reversal of his conviction was based, in part, on the ground that the judgment was procured by prosecutorial misconduct that was tantamount to fraud. . . . The prosecutor’s deliberate withholding of evidence which tended to exonerate the claimant constituted a ‘fraudulent act.’ Baba-Ali was wrongly imprisoned for almost three years.”).

Sabbagh, hired by the victim's mother, was "an expert witness at trial and . . . testified that the sexual abuse occurred 12 to 18 weeks before her initial examination, and that her examination revealed that the child had no hymen."<sup>79</sup> However, two other doctors, after examining the alleged victim, found no sexual abuse.<sup>80</sup> Despite this, Sabbagh's testimony was the only evidence presented at the trial because the prosecution did not admit the testimonies of the other doctors to the defense until the night before trial, and as result, the defense did not have time to subpoena the two doctors.<sup>81</sup> In addition, the daughter did not implicate her father nor did she remember the alleged abuse.<sup>82</sup> As a result, due to Dr. Sabbagh's misleading confidence, Baba-Ali was found guilty following a bench trial.<sup>83</sup> In addition, since the only presented evidence was the doctor's testimony, this demonstrates that the public is most likely to rely on the testimony of a doctor rather than on any other evidence, even if it's misleading.<sup>84</sup>

One way to subside the exaggerated or misleading confidence during expert testimony is to have experts testify about their technique used and the reliability of those techniques. Experts' testimony on the techniques and methods used give a sense to the jurors whether it was a reliable tool and applicable to the evidence gathered from the crime scene.<sup>85</sup> Further, the forensic experts will then less likely utilize "crude, vaguely defined vernacular terms like 'similar,' 'consistent,' and 'match,' [which] have no inherent meaning in forensic science, [but] jurors appear to ascribe them a very high probative value."<sup>86</sup> However, when having the expert describe the validity and reliability of the technique used, then the jurors will likely review the testimony with criticism, thereby watching out for a potential snake in the grass.

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<sup>79</sup> *Babi-Ali v. City of New York*, 979 F. Supp. 268, 270, 272 (S.D.N.Y. 1997) (citations omitted).

<sup>80</sup> *See id.* at 271 (citations omitted).

<sup>81</sup> *See* Stephanie Denzel, *Amine Baba-Ali*, NAT'L REGISTRY EXONERATIONS, <https://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3790>, (last visited Feb. 15, 2018).

<sup>82</sup> *See id.*

<sup>83</sup> *See* *People v. Baba-Ali*, 578 N.Y.S.2d 633, 633 (App. Div. 1992).

<sup>84</sup> *See, e.g.,* *Baba-Ali v. State*, 799 N.Y.S.2d 101, 103 (App. Div. 2005); *see also* Denzel, *supra* note 81.

<sup>85</sup> *See* BRANDON L. GARRETT, *CONVICING THE INNOCENT: WHERE CRIMINAL PROSECUTIONS GO WRONG* 85–86 (2011).

<sup>86</sup> Cole, *supra* note 6, at 723.

## V. FRAUDULENT

The above-mentioned recommendation will likely orient the jurors on the value and reliability of the testimony; however, it will not be as helpful when it comes to fraudulent expert testimony. “*Forensic fraud* occurs when forensic examiners provide sworn testimony, opinions, or documents . . . bound for court that contains deceptive or misleading information, findings, opinions, or conclusions, deliberately offered in order to secure an unfair or unlawful gain.”<sup>87</sup> Prevention and detection of fraud in the field of forensic science is poorly regulated due in part to the delayed discovery of specific instances of fraud, thereby lessening the importance for tough regulations.<sup>88</sup> Neither the prosecutor nor the defense is aware that the expert testimony and the supporting documents are deceptive, and it is usually only discovered after secondary forensic analysis from an independent forensic expert.<sup>89</sup>

Take, for instance, the case of Stephan Cowans.<sup>90</sup> Cowans was wrongly convicted for allegedly shooting a police officer after a forensic expert testified that Cowans’ fingerprints were on the evidence gathered for conviction.<sup>91</sup> When the defense attorney requested for re-analysis of fingerprint evidence, an independent forensic expert found that the fingerprint from the crime scene did not match that of Cowans.<sup>92</sup> The interesting fact is that the injured police officer identified Cowans from the photos provided.<sup>93</sup> In this case, there was a chance that the initial forensic expert’s testimony was contextually biased since the victim was a police officer.<sup>94</sup>

Besides connections with police officers, which may lead to fraud

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<sup>87</sup> BRENT E. TURVEY, *FORENSIC FRAUD: EVALUATING LAW ENFORCEMENT AND FORENSIC SCIENCE CULTURES IN THE CONTEXT OF EXAMINER MISCONDUCT* 5 (2013).

<sup>88</sup> *See id.* at 224.

<sup>89</sup> *See, e.g.,* Garrett & Neufeld, *supra* note 32, at 73–74.

<sup>90</sup> Rob Warden & Michael Aikins, *Stephan Cowans*, NAT’L REGISTRY EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3127> (last visited Feb. 15, 2018) (“False testimony by two Boston Police Department fingerprint analysts and erroneous eyewitness identifications led to the 1998 conviction of Stephan Cowans for, among other crimes, the armed assault and attempted murder of a police officer. Cowans was exonerated in 2004 when the incriminating fingerprint evidence was found to be fraudulent and DNA tests excluded him as the source of biological evidence in the case.”).

<sup>91</sup> *See* Garrett & Neufeld, *supra* note 32, at 73–74.

<sup>92</sup> *See id.*

<sup>93</sup> *See Stephan Cowans*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/stephan-cowans/> (last visited Feb. 16, 2018).

<sup>94</sup> *See* Dror, *supra* note 31, at 77 (“Rather, it seems that our findings of inconsistent identification decisions may reflect cognitive flaws and limitations in conducting objective and independent processing and evaluation of the information.”).

in forensic science results, some forensic experts not only commit fraud, but also advance in their career, due to connections with prosecutors.<sup>95</sup> When it comes to employees in forensic laboratories, sometimes there can be a paradoxical situation when a discredited worker ends up representing a forensic science program of a university.<sup>96</sup> Take, for instance, Joseph Serowik, who was hired to lead the forensic science program at Youngstown State University, Ohio.<sup>97</sup> Previously, Serowik had been suspended from the Cleveland crime lab when it was found that his forensic analysis and testimony led to the wrongful conviction of Michael Green, who was charged with rape and sentenced to twenty to fifty years in prison.<sup>98</sup> The interesting fact of this case is that years later, Serowik was recommended to be the head of the program by “Cuyahoga County Common Pleas Judge Timothy McGinty, the former prosecutor who sent Michael Green to prison for rape in 1988 with the help of the now-discredited testimony from Serowik.”<sup>99</sup> Due to such fraudulent forensic testing in cases, the state ends up having to pay the wrongly convicted individual, who is considered the victim of the fraud.<sup>100</sup> Due to Serowik’s fraudulent testimonies, the city agreed to pay Green “\$1.6 million for the 13 years he spent in prison for a rape he didn’t commit.”<sup>101</sup> Initially, Green filed a lawsuit for \$10 million, “but he accepted less because the city also agreed to re-open more than 100

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<sup>95</sup> See, e.g., Koppl, *supra* note 27, at 263; Roger G. Koppl, *Romancing Forensics: Legal Failure in Forensic Science Administration*, in *THE PURSUIT OF JUSTICE: LAW AND ECONOMICS OF LEGAL INSTITUTIONS* 51, 57 (Edward J. Lopez ed., 2010) [hereinafter Koppl, *Romancing Forensics*].

<sup>96</sup> See, e.g., Koppl, *supra* note 27, at 263; Koppl, *Romancing Forensics*, *supra* note 95, at 57.

<sup>97</sup> See, Koppl, *supra* note 27, at 263; Koppl, *Romancing Forensics*, *supra* note 95, at 57; Connie Schultz, *Another Slap in Face of Justice*, CLEVELAND.COM (Sept. 2, 2004), [http://www.cleveland.com/schultz/index.ssf/2004/09/another\\_slap\\_in\\_face\\_of\\_justic.html](http://www.cleveland.com/schultz/index.ssf/2004/09/another_slap_in_face_of_justic.html) (Nov. 3, 2017).

<sup>98</sup> See *DNA Proves a Notorious Analyst Engaged in Fraud and Misconduct Leading to Two More Wrongful Convictions, Innocence Project Says*, INNOCENCE PROJECT (Jan. 29, 2007), <https://www.innocenceproject.org/dna-proves-a-notorious-analyst-engaged-in-fraud-and-misconduct-leading-to-two-more-wrongful-convictions-innocence-project-says/>; see also *Michael Green*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/michael-green/> (last visited Feb. 16, 2018) (“On June 22, 1988, Michael Green was indicted by the grand jury of Cuyahoga County, Ohio, for one count of rape and one count of aggravated robbery. A jury trial commenced on October 13, 1988, and on October 21, 1988, Green was found guilty on both counts. The conviction was based almost exclusively on the eyewitness identification made by the victim. On October 21, 1988, the trial court sentenced Green to consecutive prison terms of ten to twenty-five years for the rape offense and ten to twenty-five years for the aggravated robbery offense.”).

<sup>99</sup> Koppl, *supra* note 27, at 263; Koppl, *Romancing Forensics*, *supra* note 95, at 57.

<sup>100</sup> See, e.g., Connie Schultz, *City to Pay \$1.6 Million for Man’s Prison Time, Cleveland Also Agrees to Review Old Cases*, TRUTH IN JUST. (June 8, 2004), <https://truthinjustice.org/cleveland-review.html>.

<sup>101</sup> *Id.*

cases that included testimony from [Serowik].”<sup>102</sup> In this case, forensic fraud was very expensive to the city and state.

However, there are also cases where the prosecutors could not simply let go of their forensic expert, even if he was fraudulent, simply because he helped close numerous cases in the prosecution’s favor.<sup>103</sup> One of the famous fraudulent forensic serologists was Fred Zain, who was “eager[] to please prosecutors with testimony tailored to their demands.”<sup>104</sup> In other words, it appears he was not just contextually biased in his forensic testimonies, but that he desired to be praised by the justice system for helping to *serve justice*.<sup>105</sup> Glen Woodall was wrongly convicted based on Zain’s fraudulent expert testimony.<sup>106</sup> Besides hair samples, Zain also forensically hypnotized the two victims, as to “enhance their memories” which was accepted in court, but which today would be inadmissible.<sup>107</sup> When another expert re-tested the evidence samples and found that Woodall was innocent, officials decided to review previous cases where Zain testified, and sure enough, they found “134 people had been imprisoned” in cases where his work was considered doubtful.<sup>108</sup> However, even when criminal charges were imposed on Zain, the attempts to convict Zain went through many retrials.<sup>109</sup> The justice system could simply not handle the fact that their right-hand man

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<sup>102</sup> *Id.*

<sup>103</sup> *See, e.g.,* Salecl, *supra* note 65, at 894.

<sup>104</sup> *Id.*

<sup>105</sup> *See id.* at 894, 895.

<sup>106</sup> *Glen Woodall*, JUSTICE DENIED, <http://justicedenied.org/db/Woodall—Glen-.html> (last visited Feb. 16, 2018) (“Glen Woodall was wrongly convicted on July 8, 1987 of sexually assaulting, kidnapping and robbing two women in two separate incidents in Cabell County, West Virginia. Both women identified him and the prosecution’s expert, State Crime Lab technician Fred Zain testified that Glen Woodall’s hair was microscopically consistent with hair found in each woman’s car. Woodall was convicted and sentenced to two life terms in prison without parole and to 203 to 335 years in prison. Woodall’s lawyer filed a motion for ‘experimental’ DNA testing of the hairs, which was denied by the trial judge. Woodall’s conviction was affirmed on direct appeal in 1989. . . . In 1991 Woodall was granted post-conviction DNA testing of the hairs. After the DNA tests excluded Woodall, he filed a petition of habeas corpus based on the new evidence of his innocence. On July 15, 1991, the trial court held a hearing on the petition and vacated Woodall’s conviction. After 4-1/2 years of incarceration Woodall was released on \$150,000 bond and restricted to home confinement. In April 1992 the State conducted its own DNA testing that also excluded Woodall. The State moved to dismiss Woodall’s indictment, which was granted by the judge on May 4, 1992. Thus the very same hairs that the prosecution had relied on [to] convict Woodall based on Zain’s expert testimony. Woodall’s trial was the first one that it is known the false testimony of ‘expert’ Fred Zain was used to convict an innocent person. Glen Woodall filed a federal civil rights lawsuit against the State of West Virginia that was settled in 1993 for \$1 million in compensation for his false imprisonment.”).

<sup>107</sup> Salecl, *supra* note 65, at 894.

<sup>108</sup> *Id.* at 895.

<sup>109</sup> *Id.*

was actually a notorious snake in the grass.<sup>110</sup> Nevertheless, the justice system never officially ruled in Zain's case, nor was he found guilty because after yet another indictment he passed away before the indictment reached trial.<sup>111</sup>

Interestingly, Zain's case is not the only one where a fraudulent forensic expert, after being officially charged with perjury and falsifying evidence, was never sentenced because the justice system simply does not want to admit that it once relied upon these testimonies and cheered when yet another innocent person was convicted.<sup>112</sup> Pamela Fish, a biochemist, was found to have provided fraudulent testimony in at least nine cases.<sup>113</sup> However, instead of pressing any charges or opening a criminal investigation, the State simply refused to renew Fish's contract.<sup>114</sup> Such cases point to the fact of how under-investigated fraudulent forensic testimonies are, and thus how they keep coming up. The State declines to acknowledge the fact that it once trusted and built an entire case based on fraudulent forensic expert testimony. Of course, one such mistake may already be fatal, but in the State's view, there is no need to label the forensic expert a fraud. If such mistakes occur continuously, then the expert should expect punishment for his or her actions, because otherwise, the justice system continues to pave the way for new fraudulent forensic experts by not criminally charging past fraudulent offenders.

## VI. RECOMMENDATIONS

Prior research on the unreliability of forensic science testimony provided recommendations, including the suggestion that "competing forensic labs in a given jurisdiction should be subject to periodic statistical review."<sup>115</sup> In other words, it was recommended that officials organize and examine all the cases that included some form of evidence reviewed in forensic labs, and while re-testing the evidence, analyze the effectiveness of the labs. If a high rate of inaccurate results and testimonies are found, then the officials should also examine the accuracy of the techniques and methods used

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<sup>110</sup> *Id.*

<sup>111</sup> *Id.*

<sup>112</sup> See Jim Fisher, *Dr. Pamela Fish: DNA Expert from Hell*, JIM FISHER TRUE CRIME, (Dec. 29, 2017), <http://jimfishertruecrime.blogspot.com/2012/01/dr-pamela-fish-dna-expert-from-hell.html>.

<sup>113</sup> *See id.*

<sup>114</sup> *See id.*

<sup>115</sup> Koppl, *supra* note 27, at 270.



and technology to guarantee that it was up to date. In wrongful conviction cases, the recommendation to review labs' effectiveness is quite appropriate since it seeks to examine the reliability of forensic science work in the courtroom on a broader level. It takes into account the possibility of analysts' lack of training, technological malfunctions, and the use of out-of-date methods and procedures to retrieve results. Knowing these factors about every forensic lab performing work in criminal cases would offer the justice system the opportunity to provide ratings for each lab and implement necessary training or budget assistance for new technology. This would improve the reliability of forensic science labs and forensic science in the courtroom overall.

Taking the above-mentioned recommendation into account, in 2013, the Department of Justice ("DOJ") along with National Institute of Standards and Technology ("NIST") created National Commission on Forensic Science ("NCFS").<sup>116</sup> By forming NCFS, the government decided to accomplish the above-mentioned recommendations, including achieving overall validity of forensic science by improving the technology and methods used in forensic labs as well as having legal practitioners understand the basics of forensic science.<sup>117</sup> That last provision is valuable. As shown in prior cited criminal cases, it is common for the jury and the courtroom participants to cause wrongful conviction by simply being unaware of the procedures and associated loopholes in forensic science.<sup>118</sup> However, if court participants were given some training, it would allow them to examine the forensic testimony and results with a certain degree of criticism, thereby lowering the chances of wrongful conviction caused by false or misleading forensic evidence.

## VII. CONCLUSION

This article demonstrated that, unfortunately, forensic science can blind the courtroom players, including jurors, when inaccurate testimony is portrayed as professional forensic work. This occurs for many reasons, one of them being that forensic experts are susceptible

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<sup>116</sup> See *National Commission on Forensic Science*, DEP'T OF JUST., <https://www.justice.gov/archives/ncfs> (last visited Feb. 16, 2018).

<sup>117</sup> See Press Release, Dep't of Justice, Notice of Public Comment Period on Advancing Forensic Science (Apr. 13, 2017), <https://www.gpo.gov/fdsys/pkg/FR-2017-04-13/pdf/2017-07512.pdf>.

<sup>118</sup> See *Glen Woodall*, *supra* note 106; *Josiah Sutton*, *supra* note 26; *Michael Green*, *supra* note 98.

to the contextual bias of the case.<sup>119</sup> Contextual bias seeps through the loophole of close contact between the police and forensic lab analysts. Therefore, addressing this issue either through stricter regulations or severing the connection between forensic labs and police departments will ensure accuracy and reliability of forensic results free from contextual bias.<sup>120</sup>

Further, the risk of the use of unreliable techniques or fraudulent results exists because of a lack of oversight by independent officials.<sup>121</sup> Periodic review of the accuracy of techniques, results, and testimonies given by the forensic experts and their labs will make the forensic science field more transparent and credible in the court<sup>122</sup> and to the public.<sup>123</sup> Ultimately, there is a need to not just implement a list of regulations, but to enact necessary guidelines to enhance transparency in the field of forensic science and return true prestige and trustworthiness to forensic science in the justice system.

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<sup>119</sup> See Dror et al., *supra* note 31, at 76.

<sup>120</sup> See NAT'L RESEARCH COUNCIL, *supra* note 63, at 191.

<sup>121</sup> See Koppl, *supra* note 27, at 269.

<sup>122</sup> See, e.g., Smith et al., *supra* note 56, at 671.

<sup>123</sup> See, e.g., Kinsey, *supra* note 68, at 318.