

# CRIME LAB REPORT

Media and public-policy analysis for the forensic science community

## The Wrongful Conviction of Forensic Science

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### EXECUTIVE SUMMARY

*Crime Lab Report* is an independent research organization that examines media and public policy trends related to forensic science. Past research and commentary published by *Crime Lab Report* have been both supportive and critical of the forensic sciences. The purpose of this study, however, was to examine the accuracy of claims that forensic science is a leading cause of wrongful convictions. To accomplish this, *Crime Lab Report* reviewed public information pertaining to the first 200 DNA exonerations that occurred between 1989 and 2007. The frequencies of “probable systemic failures” extracted from case profiles published by the *Innocence Project* were tabulated and analyzed. As a result of this study, forensic science malpractice, whether fraudulent or not, was shown to be a comparatively small risk to the criminal justice system. When it does occur, however, the risks are best mitigated by competent and ethical trial lawyers dedicated to seeking the truth.

The following is a summary of *Crime Lab Report’s* major findings. More specific data and comments are provided on the pages that follow this summary.

1. In the 200 convictions studied, 283 instances of probable systemic failure were identified and isolated from case profiles published by the *Innocence Project*. In many cases, these profiles were either corroborated or clarified by other sources. These failures are ranked as follows:

<u>Rank</u>	<u>Percent</u>	<u>Number</u>	<u>Description</u>
1	54%	153	Eyewitness misidentifications
2	15%	43	False confessions
<b>3</b>	<b>11%</b>	<b>32</b>	<b>Forensic science malpractice</b>
4	10%	27	Government misconduct
5	9%	25	Informant snitches
6	1%	3	Bad lawyering

2. Of the 32 instances of forensic science malpractice shown above, only 1 was found to have occurred in an accredited laboratory. This error did not directly incriminate the defendant.
3. In 36 of the 200 overturned convictions, the existence of forensic testing results favorable to the defendant was confirmed by various sources. This favorable forensic evidence has been largely ignored in public statements made by the *Innocence Project* likely because the results were either not presented at trial or otherwise failed to cause an acquittal.
4. Bad lawyering was found to be a much more pervasive problem than what has been previously estimated by both the *Innocence Project* and a highly publicized study recently published in the *Columbia Law Review*.
5. Forensic science malpractice was identified as the sole systemic failure in only two overturned convictions (1%). Both were associated with the work of Fred Zain.
6. Claims that “faulty forensic science” is a leading cause of wrongful convictions were found to be based on careless and improper statistical expressions resulting from a misuse of available exoneration data.

## INTRODUCTION

The purpose of this study was to explore the basis and validity of claims being perpetuated in the public domain that faulty forensic science is a leading cause of wrongful convictions. Many wrongful convictions have been identified and remedied in recent years through post-conviction litigation and DNA testing. Post-conviction litigation is the specialty of an organization called the *Innocence Project* in New York. Its affiliates and supporters comprise what is known as the *Innocence Network* - organizations and advocates dedicated to supporting convicted offenders whose innocence can be proven using modern DNA technology.

The exoneration of truly innocent people is clearly an act of social justice; however, the work of the *Innocence Project* goes far beyond this. Passionately and convincingly they promote the establishment of state oversight commissions to “review the forensic methods that are accepted in state courtrooms and to investigate allegations of misconduct, negligence or error in labs.”<sup>1</sup> Superficially, this might seem reasonable. But a rapidly growing number of forensic science laboratories in the United States already subject themselves to rigorous scrutiny through accreditation and other quality-control safeguards that have only recently demonstrated their full potential to monitor work practices and accuracy in the profession of forensic science. For each of these laboratories, the implications associated with being governed by a commission prone to political wrangling and bureaucratic inefficiencies are quite troublesome.

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For years, the *Innocence Project* has publicly condemned what it claims to be the frequent use of erroneous, fraudulent, or unreliable forensic evidence against defendants in criminal trials. And until recently, no authoritative statistical studies had been completed to either support or refute this argument.

But all this changed with a groundbreaking study published in the January 2008 issue of the *Columbia Law Review*, titled “Judging Innocence.” Its author, Brandon Garrett, is an associate professor at the University of Virginia School of Law. Garrett and his team carefully studied the first 200 DNA exonerations that occurred between 1989 and 2007, documenting the types of evidence originally used against the defendants during their trials. Based on his research, Garrett argued in support of special commissions to prevent wrongful convictions. “[R]esearch suggests that procedures such as....oversight of forensic crime laboratories, could have prevented many such costly miscarriages...”<sup>2</sup>

Professor Brandon Garrett is an experienced post-conviction litigator who once served as an associate at Cochran, Neufeld & Scheck LLP in New York City. Peter Neufeld and Barry Scheck are the cofounders of the *Innocence Project* located in Manhattan.<sup>3</sup>

*Crime Lab Report* editors became intrigued by the work of Professor Garrett when it was learned that his study was presented before a special committee convened by the National Academy of Sciences in Washington, D.C. News reports from various sources, including the *New York Times*, attempted to summarize Garrett’s findings, which seemed to indicate that faulty forensic science may very well be a leading cause of wrongful convictions in the United States.

Therefore, *Crime Lab Report* studied the work and findings of Professor Garrett and extracted pertinent data. This information was then cross-referenced with case profiles, media reports, and public comments pertaining to the first 200 convictions overturned by post-conviction litigators armed with modern DNA technology and other scientific evidence.

Based on this research, a very compelling and contextually honest case can be made for why the conviction of forensic science may be as erroneous as the 200 convictions summarized in this report. Hopefully, future studies seeking to explain the major causes of wrongful convictions may be conducted with more statistical and scientific accuracy.

## THE CONVICTION OF FORENSIC SCIENCE

The year 1989 marked the beginning of a long and arduous period in the history of America's criminal justice system. It was then that Gary Dotson and David Vasquez were exonerated and released from prison based on new DNA testing capabilities. Dotson served 10 years in prison for aggravated kidnapping and rape. Vasquez served four years in prison for second-degree murder and burglary. Both men were incriminated by forensic evidence during their original trials.<sup>4</sup>

In 1992, well-known criminal defense attorneys Barry Scheck and Peter Neufeld created the *Innocence Project*, "a national litigation and public policy organization dedicated to exonerating wrongfully convicted people through DNA testing and reforming the criminal justice system to prevent future injustice."<sup>5</sup> As the *Innocence Project* expanded over the next sixteen years, the basic principles of its public policy agenda were advanced through well coordinated and carefully prepared statements that repeatedly called into question the reliability and professionalism of forensic scientists in the United States.

**"Forensic science has gotten a free ride for the last 50 years, primarily because they made this bogus argument that [they] don't need to be regulated."**

*Peter Neufeld*  
*Innocence Project Co-Director*

In a 1996 *USA Today* cover story written by Becky Beaupre and Peter Eisler, *Innocence Project* co-director Peter Neufeld was quoted as saying "There's absolutely no reason that crime laboratories, which routinely make decisions that have life and death consequences for an accused person, should be less regulated than a clinical laboratory utilizing similar tests."<sup>6</sup>

Similar sentiments were expressed in astounding detail by an aggressive team of *Chicago Tribune* reporters who published a stinging series of investigative reports in 2004 that chronicled some of the cases being worked by the *Innocence Project*. The reports, which were released one after another over the course of a week, seemed to intentionally lure even the most educated and thoughtful readers into believing that forensic science laboratories were some of the most corrupt and incompetent organizations in the United States.

The *Tribune* set the stage for its attack on forensic science in the first article published on October 17, 2004. "At the center of this upheaval is the advent of DNA testing, which has injected a dose of truth serum into other forensic tools," argued *Tribune* reporters Flynn Roberts, Steve Mills, and Maurice Possley. "With its dramatic precision, DNA has helped reveal the shaky scientific foundations of everything from fingerprinting to firearm identification, from arson investigation to such exotic methods as bite-mark comparison."<sup>7</sup>

On January 13, 2005, *CNN* aired "Can Crime Labs Be Trusted," a probing investigative report that claimed to uncover profound weaknesses in how America's crime laboratories were being operated. Among the pertinent points delivered by *CNN* was the supposed lack of oversight and accountability to ensure that work is conducted properly. Peter Neufeld was interviewed in the documentary. "Forensic science has gotten a free ride for the last 50 years, primarily because they made this bogus argument that [they] don't need to be regulated."<sup>8</sup>

Then, exactly three years after the *Chicago Tribune* series, the "shaky" scientific methods it brought to light became the subject of another television documentary, this time by *MSNBC*, titled "When Forensics

Fail,” which showcased the troubling stories of innocent persons convicted and imprisoned of crimes that they likely did not commit.<sup>9</sup> One of the cases was that of Ray Krone, who was convicted in 1992 for murder, kidnapping, and sexual assault based largely on a forensic bite-mark identification. DNA collected from the bite-mark was eventually excluded as belonging to Krone.

On October 1, 2007, not long before MSNBC aired its documentary, the *New York Times* published a powerful front-page story about the public policy lessons of post-conviction litigation using DNA. In the article, Peter Neufeld argued that “The legislative reform movement as a result of these DNA exonerations is probably the single greatest criminal justice reform effort in the last 40 years.”<sup>10</sup> But what quickly attracted the attention of some in the forensic science community was not the article itself, but the fact that it “coincidentally” appeared during the weeklong annual training symposium hosted by the American Society of Crime Laboratory Directors in Orlando, Florida.

Any suspicions that the timing of the aforementioned *Times* article might have been orchestrated by the *Innocence Project* and/or its supporters in the media were nearly confirmed on February 19, 2008 when a similar front-page story about post-conviction DNA exonerations appeared in *USA Today* during the annual meeting of the American Academy of Forensic Sciences, one of the largest annual forensic science conventions in the world. A provocative comment by Peter Neufeld was included in the story.<sup>11</sup>

**“If the profession of forensic science is truly guilty of these charges, and if it can be shown that it has failed to establish the checks and balances necessary to prevent junk science and improper testimony from violating the rights of defendants, then the recommended ‘sentence’ of being subjected to a politically charged and bureaucratic oversight commission would seem well deserved.”**

So by the time Professor Brandon Garrett published the results of his research in “Judging Innocence,” the profession of forensic science had been entirely and completely convicted of being responsible for the imprisonment of innocent citizens and a symbol of decline and incompetence within America’s criminal justice system. News outlets across the country bought into what they perceived to be a compelling and disturbing story. Elected officials became more open to the idea that faulty forensic science was running rampant in U.S. courtrooms and might require legislative action to correct. Garrett’s work simply provided what appeared to be a long-awaited statistical validation of the rhetoric being disseminated by the *Innocence Project* and its supporters.

In fact, both Brandon Garrett and Peter Neufeld presented the “Judging Innocence” findings on September 20, 2007 to a special committee convened by the National Academy of Sciences, which was charged with the task of identifying the needs of the forensic science community. *Crime Lab Report* obtained a copy of their presentation from the National Academy of Sciences public records office.<sup>12</sup>

### **Flawed Testimony**

Of the 200 exonerations that Professor Garrett examined, he identified 113 cases (57%) where forensic evidence was presented against the defendant during the original trial.<sup>13</sup> According to Garrett, the major problem in wrongful convictions seems to be “improper and misleading testimony regarding comparisons conducted.”<sup>14</sup> Such testimony, he argues, tends to bolster questionable evidence that might otherwise have been dismissed as erroneous or unreliable in the eyes of the jury.

Garrett and Neufeld discussed the problem of misleading testimony during their presentation at the National Academy of Sciences in Washington, D.C. In the 113 cases involving the use of forensic evidence against a defendant, 57% of the cases in which trial transcripts were located involved what Garrett and Neufeld characterized as improper (but not intentionally so) scientific testimony. An additional seven cases were presented that they claimed to have been tainted by “known misconduct.”<sup>15</sup>

Taken together, 42 cases or 69% of the trial transcripts reviewed were alleged by Garrett and Neufeld to have been tainted by faulty forensic science – a disturbing statistic if found to be true. They also went as far as to list the names of “offending” scientists and laboratories.

In January 2008, the Senate Judiciary Committee convened a hearing to investigate the alleged failure of the Justice Department to enforce forensic-related provisions contained in a bipartisan legislative effort known as the *Justice for All Act of 2004*. Peter Neufeld testified on behalf of the *Innocence Project*:

“Together, misapplication of forensics and misplaced reliance on unreliable or unvalidated methodologies are the second greatest contributors to wrongful convictions. Despite these demonstrated problems, independent and appropriately conducted investigations – which should be conducted when serious forensic negligence or misconduct may have transpired – have been exceedingly rare.”<sup>16</sup>

### **The Verdict**

The final verdict in the case against forensic science may have come from the United States Inspector General, Glenn A. Fine, during his own testimony before the Senate Judiciary Committee. In a statement as devastating as it was simple, Fine agreed that “Negligence and misconduct in forensic laboratories.... have led to wrongful convictions in several states.”<sup>17</sup>

If the profession of forensic science is truly guilty of these charges, and if it can be shown that it has failed to establish the checks and balances necessary to prevent junk science and improper testimony from violating the rights of defendants, then the recommended “sentence” of being subjected to a politically charged, bureaucratic oversight commission would seem well deserved.

But a more reliable and honest statistical analysis has now made a compelling case to the contrary.

## **THE CASE FOR EXONERATION**

Although they don’t command much attention amidst the fervor surrounding the innocence movement, suspicions that DNA exonerations do not portray an accurate picture of the American criminal justice system have been communicated from various sources.

On April 26, 2007, an op-ed piece authored by Morris Hoffman, a Colorado district court judge and adjunct professor of law at the University of Colorado, was published in the *Wall Street Journal*. Hoffman argued that that innocence movement is prone to exaggeration and a tendency to “stretch their results beyond all statistical sense.” The following quote from Hoffman seems to adequately summarize his position:

“The mythmakers also directly conflate trial error rates with wrongful conviction rates. Studies showing astonishingly high error rates in capital trials have very little to do with the question of the rate at which innocent people are being convicted. I can’t remember a single trial over which I have presided – including dozens of homicides – in which, looking back, I didn’t make at least one error in ruling on objections. It is a giant leap from an erroneous trial ruling to reversible error, and another giant leap from reversible error to actual innocence.”<sup>18</sup>

As *Crime Lab Report* moved forward with its research into claims that faulty forensic science is a pervasive problem in the United States, Hoffman’s observations began to take on new meaning. As will be shown in this report, even the most rudimentary analysis demonstrates that the public-policy rhetoric of the *Innocence Project* is being underwritten by statistical expressions and characterizations that collapse under the weight of intellectual scrutiny. While this does not devalue the work of representing convicted felons who have a strong case of innocence (even Judge Hoffman pointed out that such work “is incredibly important and should be celebrated...”), the weight assigned to any public policy or legislative recommendations based on such misrepresentations would seem to warrant either minimal consideration or maximum scrutiny.

### Misinterpretation of Exoneration Data

The statistical evidence used against forensic science was summarized in a *New York Times* editorial published on July 23, 2007. “The leading cause of wrongful convictions was erroneous identification by eyewitnesses, which occurred 79 percent of the time,” wrote *Times* legal correspondent Adam Liptak. “Faulty forensic science was next, present in [57] percent of the cases.”<sup>19</sup>

The eagerness of the media to harvest these troublesome figures was only magnified by the presentation that Brandon Garrett and Peter Neufeld gave to the National Academy of Sciences in September 2007. The slide show they presented was titled “Improper Use of Forensic Science in the First 200 Post-Conviction DNA Exonerations” and it relied heavily on the data generated by Garrett’s research.

But even when summarizing his own research in “Judging Innocence,” which was published only months after his appearance at the National Academy of Sciences, Professor Garrett clearly acknowledged that his study did not seek to quantify the *leading causes* of wrongful convictions. Instead, he simply sought to identify “the *leading types of evidence supporting* wrongful convictions [emphasis added].”<sup>20</sup> This clarification has fallen on deaf ears for reasons that have only been worsened by those in the innocence movement.

Whatever those reasons are, suffice it to say that the public were strongly encouraged to believe that 57% of the 200 overturned convictions were caused by faulty forensic science. This is not even remotely accurate.

**“Suffice it to say that the public were strongly encouraged to believe that 57% of the 200 overturned convictions were caused by faulty forensic science. This is not even remotely accurate.”**

First, it is true that 113 or 57% of the 200 overturned convictions involved the presentation of forensic evidence against defendants during their original trials. But as will be demonstrated later, the fact that 57% of these convictions involved the use of forensic evidence does *not* mean that 57% of all wrongful convictions are caused by faulty forensic science. This erroneous interpretation seems to exemplify the kind of statistical carelessness that Judge Hoffman complained about in his *Wall Street Journal* editorial.

*Crime Lab Report* carefully studied the *Innocence Project’s* case profiles for each of the first 200 DNA exonerations and tabulated the number of cases in which specific “causes” occurred. Because many of the cases have more than one cause associated with them, the combined percentages exceed 100%. The following is a breakdown of these causes ranked from highest to lowest.

CAUSES BY NUMBER AND PERCENT OF CASES			
Rank	% Cases	# Cases	Description
1	77%	153	Eyewitness misidentifications
2	36%	71	<b>Unreliable / limited science</b>
3	22%	43	False confessions
4	14%	27	Government misconduct
5	13%	26	<b>Forensic science misconduct</b>
6	13%	25	Informant snitches
7	2%	3	Bad lawyering

These numbers come directly from the *Innocence Project’s* published information on DNA exonerations, yet the only two causes pertaining to forensic science (unreliable/limited science and forensic science misconduct) account for 97 or 49% of the cases, somewhat lower than what was quoted by the *New York Times*, Brandon Garrett, and Peter Neufeld.

**“The overall statistical weight that can be honestly assigned to faulty forensic science is very small.”**

The reason for this discrepancy is that 16 of the 113 cases involving forensic evidence were not labeled by Garrett and Neufeld as being problematic, suggesting that some kind of discriminating method was employed to distinguish legitimate forensic evidence from that which was actually faulty. But as *Crime Lab Report* uncovered, this was not the case. In fact, the number of cases involving actual instances of faulty forensic science is far less than the

97 cases tabulated above. And as will be demonstrated in the following section, the overall statistical weight that can be honestly assigned to faulty forensic science is very small.

**Tabulation of Probable Systemic Failures**

Both Brandon Garret and the *Innocence Project* have incorrectly relied on counting the types of evidence used against defendants at trial and then expressing the numbers as a percentage of the total number of cases. The problem with this method is its failure to account for cases where multiple types of evidence were used against the defendant.

For example, in the case against Bruce Godschalk<sup>21</sup>, who was convicted of rape and burglary by a Pennsylvania jury in 1987, the *Innocence Project* identified five factors that contributed to the conviction:

1. false eyewitness identification
2. unreliable / limited science
3. false confession
4. government misconduct
5. bad informant/snitch

Admittedly, the serology evidence failed to exclude Godschalk, but it did not conclusively associate him either. By all accounts, the forensic testing was not faulty, just too nonspecific to support an acquittal. Any confusion that might have been introduced by this evidence, however, was dwarfed in significance and weight by the other four instances of failure that directly incriminated Godschalk.

Because five different factors are associated with the Godschalk case, proper statistical sampling does not allow for any one factor to be fully blamed for the conviction. Yet this is exactly what has happened.

*Crime Lab Report* began to correct this problem by tabulating the total number of **probable systemic failures** cited by the *Innocence Project*, which were then expressed as a percentage of the total number of instances. In doing so, a more valuable statistical model was created. The following table illustrates the resulting data:

PROBABLE SYSTEMIC FAILURES ACCORDING TO THE INNOCENCE PROJECT			
Rank	Percent	Number	Description
1	44%	153	Eyewitness misidentifications
2	20%	<b>71</b>	<b>Unreliable / limited science</b>
3	12%	43	False confessions
4	8%	27	Government misconduct
5	7%	<b>26</b>	<b>Forensic science misconduct</b>
6	7%	25	Informant snitches
7	1%	3	Bad lawyering

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When expressed as a percentage of the total number of instances, not cases, unreliable/limited science occurred 20% of the time while forensic science misconduct occurred only 7% of the time. Collectively,

this demonstrates that even the most aggressive interpretation of the *Innocence Project's* own published data can only attribute 27% of all probable systemic failures to forensic science, a far reach from the 57% cited by the *New York Times*.

But as the research continued, the data became increasingly favorable to forensic science.

### The Case Studies

*Crime Lab Report* randomly selected and examined the exonerations of Steven Avery, Kerry Kotler, Clyde Charles, William Gregory, and Bruce Godschalk. In each of these cases, forensic evidence was used by the prosecution to demonstrate guilt. As a result, they are included among the 113 cases (57%) cited by the *New York Times* as being caused by faulty forensic science. They also include the 97 (27%) instances of probable systemic failure tabulated by *Crime Lab Report*.

But just how faulty was this evidence?

A review of each of the following cases revealed that the forensic evidence was very nonspecific and could not scientifically or exclusively justify the acquittal of the defendant; however, no indication could be found that the testimony or analyses were faulty. Brief descriptions of the scientific evidence in these cases have been quoted directly from authoritative sources.

**Steven Avery** – “He was charged with and convicted of [a] brutal attack on [a] beach in Manitowoc County, based almost entirely on eyewitness identification testimony of a single witness. The state also presented microscopic hair examination evidence indicating that a hair found on Avery was ‘consistent’ with the victim's hair. Avery was sentenced to 32 years in prison in March 1986.”<sup>22</sup>

**Kerry Kotler** – “The prosecution based its case on several points:

- “The victim identified Kotler from a group of 500 photographs.”
- “The victim identified Kotler by sight and voice from a police lineup.”
- “County laboratory tests showed that Kotler had three non-DNA genetic markers (ABO, PGM, and GLO) that matched those of the semen stain left on the victim's underpants.”<sup>23</sup>

**Clyde Charles** – “Clyde was tried by an all-white jury of 10 women and two men. The prosecution's evidence included the victim's identification and her testimony that the rapist called himself ‘Clyde.’ A criminalist testified that two Caucasian hairs on Clyde's shirt were microscopically similar (but not conclusively identical) to hair from the victim's head. The police officer testified that Clyde had been wearing a dark jogging jacket with white stripes when he saw him outside the bar, corroborating the victim's description of her assailant's dark jogging suit with stripes. The officer also testified that Clyde had been wearing a red cap and blue jacket tied around his neck when he saw him hitchhiking. A red baseball hat and blue jean jacket were found near the scene of the rape.”<sup>24</sup>

**“Even the most aggressive interpretation of the *Innocence Project's* own published data can only attribute 27% of all systemic failures to forensic science, a far reach from the 57% cited by the *New York Times*.”**

**William Gregory** – “William Gregory, an African-American, was arrested, charged, and sentenced for the attempted rape of a Caucasian woman in his apartment complex after the victim identified him in a suspect lineup. There was no other evidence in the case except for six “Negroid” head hairs discovered in pantyhose used as a mask at the crime scene. The pantyhose had been washed and hung in the victim's bathroom prior to the crime. At the 1993 trial a hair microscopist stated that the hairs could have come from Gregory, and this testimony was helpful to the prosecution.”<sup>25</sup>

**Bruce Godschalk** – “In May of 1987, Mr. Godschalk was convicted of [two] rapes and sentenced to 10 to 20 years in prison. The police had recovered semen samples from both rapes but, in 1987, did not have the DNA technology to test this evidence. Mr. Godschalk's conviction was affirmed on appeal.”<sup>26</sup>

As mentioned previously, although extensive research revealed no indication that the forensic evidence in the above cases was anything but valid, each of them has been rhetorically and statistically attributed to faulty forensic science. In other words, because the evidence did not prevent the conviction, it was assumed to have been faulty.

In criminal trials, it is frequently necessary for prosecutors to present weak or limited forensic evidence against defendants. By default, physical evidence that cannot exclude a defendant as being associated with a crime is fair-game to be used as evidence of guilt, and the jury may benefit from hearing it. This demands ethical restraint and judicial vigilance to ensure that the evidence is not confused for being stronger than it actually is. Therefore, competent lawyering is a critical component in the justice system's efforts to protect the rights of defendants and the overall fairness of the adjudicative process.

### **Failure to Credit Evidence Favorable to the Defendant**

Perhaps the most startling data uncovered in *Crime Lab Report's* research was the fact that 36 out of 200 cases (18%) were identified as having forensic evidence that was actually favorable to the defendant. Various reasons account for why this evidence was either not presented at trial or failed to cause an acquittal, but the fact remains that these instances did not temper the *Innocence Project's* rhetoric blaming forensic science for wrongful convictions.

For example, in his research, Professor Garrett found two cases where fingerprint evidence was used against the defendants. But in a third case, the trial of Antonio Beaver, he failed to give credit to forensic scientists who, according to the *Innocence Project*, concluded that “fingerprints collected from the victim's car – including prints from the driver's side and the rearview mirror – did not match the victim or Beaver.”<sup>27</sup>

To the credit of the *Innocence Project*, they do not associate Antonio Beaver's case with any questionable forensic evidence. The same, however, cannot be said for the convictions of James Ochoa, Drew Whitley, and Roy Brown. In each case, *Innocence Project* case profiles cite unreliable / limited science as being a factor contributing to the conviction despite the knowledge of exculpatory forensic results before trial.

James Ochoa<sup>28</sup>, for example, was convicted of armed robbery and carjacking in 2005. Prosecutors were certain of his guilt even though DNA and fingerprint evidence excluded Ochoa prior to trial. Yet his conviction is blamed by the *Innocence Project* on unreliable / limited science and is included by Garrett and Neufeld as an example of faulty forensic science.

Drew Whitley<sup>29</sup> was convicted of murder in 1989. A laboratory technician testified that a saliva sample associated with the crime scene did not match Whitley. Yet his conviction is blamed on unreliable / limited science.

Roy Brown<sup>30</sup> was convicted of murder in 1992. A bite-mark expert retained by the defense testified during trial that six of seven bite-marks were not sufficient for analysis and that “the seventh excluded Brown because it had two more upper teeth than he had.” Yet his conviction is blamed on unreliable / limited science.

**“Ironically, the number of such cases where forensic evidence was favorable to the defendant exceeds the total number of cases that *Crime Lab Report* found to be tainted by actual forensic science malpractice.”**

Ironically, the number of such cases where forensic evidence was favorable to the defendant exceeds the total number of cases that *Crime Lab Report* found to be tainted by actual forensic science malpractice. The following section will explain how this was determined.

### Forensic Science Malpractice

As *Crime Lab Report's* research progressed into the summer of 2007, it became increasingly evident that there were significant problems with the *Innocence Project's* accounting and characterization of cases involving forensic evidence. Up to that point, the published case profiles and reports, such as the ones reviewed in the Bruce Godschalk case, revealed multiple contributing factors without appropriate weight being assigned to any of them.

Because *Crime Lab Report* was concerned only with the role of forensic science in the overturned convictions, a second review of all 200 case profiles, supplemented by news reports for many of those cases, was conducted with a focus only on the role of forensic science. As a result of this review, the 200 cases under consideration were broken down into the following categories, all specific to forensic science:

1. Conviction not supported by forensic evidence
2. Non-specific science failed to exclude the defendant
- 3. Forensic Science Malpractice**
4. Forensic evidence was favorable to the defendant

By evaluating the cases in this manner, the actual role of forensic evidence could be more clearly and constructively estimated. The following table shows how the cases ranked using this method.

THE ROLE OF FORENSIC SCIENCE – BY NUMBER AND PERCENT OF CASES			
Rank	Percent	Cases	Description
1	35%	69	Non-specific science failed to exclude the defendant
2	32%	63	Conviction was not supported by forensic evidence
3	18%	36	Forensic evidence was favorable to the defendant
<b>4</b>	<b>16%</b>	<b>32</b>	<b>Forensic science malpractice</b>
		<b>200</b>	

Based upon this review, only 16% could be associated with probable instances of forensic science malpractice. But as mentioned earlier, there is a problem with this approach. Expressing systemic failures as a percentage of cases does not account for cases with multiple failures contributing to the convictions.

Therefore, *Crime Lab Report* extracted the above 32 instances of probable forensic-science malpractice and ranked them against other instances of failure identified by the *Innocence Project*. This time, the total number of failures dropped from 348 to 283 due to so many forensic-related cases having been questionably or improperly cited by the *Innocence Project* as being caused by faulty forensic evidence.

PROBABLE SYSTEMIC FAILURES – BY NUMBER AND PERCENT			
Rank	Percent	Instances	Description
1	54%	153	Eyewitness misidentifications
2	15%	43	False confessions
<b>3</b>	<b>11%</b>	<b>32</b>	<b>Forensic Science Malpractice</b>
4	10%	27	Government misconduct
5	9%	25	Informant snitches
6	1%	3	Bad lawyering
		<b>283</b>	

The above table provides some of the most compelling evidence that vindicates forensic science from the accusations of critics in the innocence movement. Only 11% of all probable systemic failures identified by *Crime Lab Report* were attributed to forensic science malpractice using the available data.

For those who correctly argue that 11% is unacceptably high, the following section will demonstrate why the percentage continues to shrink in favor of forensic science.

### **Bad Lawyering and Government Misconduct**

As mentioned in the Executive Summary on the first page of this report, it was noted that the number of convictions attributed by the *Innocence Project* and Professor Garrett to bad lawyering was remarkably low, only 3 cases out of 200, or 1.1%. Government misconduct was blamed in 27 cases (14%). *Crime Lab Report's* study, however, suggests, at least preliminarily, that nearly all of the overturned convictions would have been prevented by more competent and ethical legal counsel on both sides. This finding seems to be intuitively reasonable mainly because lawyers are critical to ensuring that our criminal justice system is fair to all parties. It is also consistent with standards adopted by the American Bar Association.

**“Considering the critical role that trial attorneys play before and during a criminal trial, one would expect the *Innocence Project* to identify more than three instances of bad lawyering in 200 overturned convictions.”**

Kelly Pyrek, author of [Forensic Science Under Siege](#), noted the following:

“The American Bar Association’s (ABA) Model Rules of Professional Conduct outline a number of important tenets of responsibility and professional conduct for attorneys, including ‘A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness, and preparation reasonably necessary for the representation’ and ‘A lawyer shall act with reasonable diligence and promptness in representing a client.’”<sup>31</sup>

Considering the critical role that trial attorneys play before and during a criminal trial, one would expect the *Innocence Project* to identify more than three instances of bad lawyering in 200 overturned convictions.

This understatement, however, creates a massive statistical vacuum that has contributed heavily to the wrongful conviction of forensic science in the court of public opinion.

For example, if one were to estimate that 100 instances of bad lawyering are actually represented in the 200 convictions studied, it would raise the total number of systemic failures to 380 and lower the percent attributable to forensic malpractice to 8.4%.

On the other hand, if the most liberal (but not necessarily the most reasonable) interpretation is applied such that all 200 cases are assigned one instance of bad lawyering and one instance of government misconduct, it would raise the total number of systemic failures to 653 and lower the percent attributable to forensic science malpractice to only 4.9%.

These hypothetical estimates demonstrate how important it is to accurately and completely tabulate the causes of wrongful convictions before assigning a specific share of the blame to any of them. Because bad lawyering is so understated in the *Innocence Project's* data, the blame assigned to forensic science malpractice has become inflated beyond reason.

Future studies conducted with the assistance of reputable forensic science experts will hopefully look closer at the 200 overturned convictions to determine exactly how they happened and if, in fact, the 32 instances of forensic science malpractice can be fairly labeled as such. Preliminary information collected in this study strongly suggests that many are not. This includes the disturbing and tragic case against Ray Krone.

## The Conviction of Ray Krone

According to *MSNBC*, it was the ultimate example of faulty forensic science – an erroneous identification reported by a prosecution expert who testified that Ray Krone, and only Ray Krone, was responsible for leaving a bite-mark on the breast of a dead woman found in a local tavern. She was a waitress and Ray Krone was a frequent patron.<sup>32</sup>

With little other evidence to speak of, Krone was convicted of murder and sentenced to death by an Arizona jury. According to the *Innocence Project*, “At his 1992 trial, Krone maintained his innocence, claiming to be asleep in his bed at the time of the crime. Experts for the prosecution, however, testified that the bite-marks found on the victim’s body matched the impression that Krone had made on [a Styrofoam cup] and a jury convicted him on the counts of murder and kidnapping.”<sup>33</sup>

At first glance, Krone’s conviction seems to be another glaring example of faulty forensic science.

Unfortunately, critical pieces of information were left out of the *Innocence Project*’s case profile for Ray Krone. Prior to Krone’s trial, a forensic bite-mark expert, Dr. Skip Sperber, was hired by the prosecution to examine the bite-mark evidence. Sperber concluded that Krone, in fact, did not leave the bite-mark found on the victim’s breast and, according to *MSNBC*, advised prosecutors that the police “have the wrong guy.”<sup>34</sup>

Apparently unhappy with Sperber’s result, prosecutors took the evidence to an inexperienced local odontologist who conclusively identified Krone as leaving the bite-mark in question. The Krone case was his first, according to *MSNBC*.

As attorney’s continued to uncover problems with Krone’s trial, it was learned that more conventional and scientifically respected evidence, including fingerprints and footwear impressions, had also been examined prior to trial and excluded Krone as being the contributor.

Maricopa County Attorney Rick Romley eventually apologized for the obvious miscarriage of justice, but he conveniently passed blame for his own possible misconduct onto forensic science by suggesting that Krone’s conviction was simply the result of inadequate science.

In a case that has been touted as the quintessential example of faulty forensic science, it was forensic science that got it right from the start.

It is true that bite-mark analysis is a discipline with little peer-oversight and no significant place in America’s crime laboratories. But the inability of Krone’s team to mount an adequate defense and the failure of prosecutors to act on the totality of forensic evidence pointing to another perpetrator should have raised the ire of the *Innocence Project* enough to convince them that bad lawyering and government misconduct were the primary causes of Krone’s wrongful conviction.

But for reasons that are difficult to understand, the *Innocence Project* case profile for Ray Krone<sup>35</sup> failed to emphasize government misconduct or bad lawyering as factors contributing to Krone’s conviction.

## Closing Arguments

The leading causes of wrongful convictions are false eyewitness identifications exacerbated by bad lawyering, and in some cases, government misconduct. As a total percentage of all systemic failures contributing to wrongful convictions, faulty forensic science comprises a small percentage. But more importantly, this percentage decreases considerably as stricter and more controlled methods are employed to analyze the available exoneration data. More work should be done in this regard.

In the meantime, the compiled data and information studied by *Crime Lab Report* demonstrate faulty and incomplete statistics magnified by rhetorical misrepresentations on the part of innocence advocates and the

**“In a case that has been touted as the quintessential example of faulty forensic science, it was forensic science that got it right from the start.”**

media. These misrepresentations have come to bear heavily on the profession of forensic science, which is not accustomed to withstanding sustained attacks from well-funded activists. Forensic scientists are simply too busy. For this reason, the profession is vulnerable to being bullied.

The case of Ray Krone is among the most disturbing in terms of the blame unfairly placed on forensic science and the turmoil that Krone endured as a result of government misconduct, bad lawyering, or possibly both. But the cases of Steven Avery, Antonio Beaver, Clyde Charles, William Gregory, Kerry Kotler, and Bruce Godschalk tell a story of their own, and they all raise very serious questions about the lengths to which the innocence movement is willing to go in carrying out its public policy and legislative efforts.

The authors hope that this report is subjected to fair and rigorous scrutiny. But whatever the outcome, all stakeholders should be reminded that any public policy agenda being advanced with exaggerations and mischaracterizations, whether intentionally fabricated or not, should be subjected to equally rigorous scrutiny or rejected entirely.

### AUTHORS' COMMENTS & PUBLIC POLICY CONSIDERATIONS

While this study seems to defend the profession of forensic science, the authors recognize that it is very good practice for trial lawyers, judges, and juries to look cautiously, and sometimes skeptically, at the testimony of subject-matter experts. This means that expert conclusions and associated testimony should always be subjected to a level of scrutiny that is commensurate with the seriousness of the matter at hand. Consequently, the adversarial system of justice in the United States places a tremendous responsibility on lawyers and judges to be vigilant, honest, and fair.

It remains a mystery as to why the *Innocence Project* only identified 3 instances of bad lawyering in the 200 cases studied. Even a cursory review of the case profiles shows ample evidence to demonstrate how pervasive and obvious the problem actually was. Even the 27 cases cited as involving government misconduct was probably much too low. That the *Innocence Project's* public policy efforts focus so intently on forensic science would leave a reasonable person to suspect that forensic science is simply a more attractive target, not because it is justified, but because the fight attracts more attention.

The *Innocence Project* needs attention and money to drive its public policy agenda. In the age of *CSI*, *New Detectives*, *Cold Case Files*, and *Crossing Jordan*, taking on crime laboratories will turn heads more quickly than esoteric procedural debates among litigators.

The major public policy question that this study hoped to answer was whether or not governmental oversight of crime laboratories is statistically and economically justified. The opinion held by many in the innocence movement is that such oversight is needed; however, this opinion depends on two assumptions that were invalidated by this study:

1. That forensic science malpractice is a leading cause of wrongful convictions.
2. That crime laboratory accreditation fails on its own to provide the structure and accountability necessary to minimize the occurrences of forensic science malpractice.

*Crime Lab Report* found only one case involving forensic science malpractice in an accredited laboratory; however, it was a false exclusion of a rape victim's husband as being the contributor of semen found on a rape-kit swab and bedding from the victim's home. The error did not directly incriminate the defendant

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and appeared to be completely unintentional. Also, the incident occurred in 1988 when crime laboratory accreditation was in its infancy.<sup>36</sup>

In fact, 74% of the 200 overturned convictions occurred before 1990. Since then, accreditation has grown in scope and complexity. Of all laboratories currently accredited by the American Society of Crime Laboratory Directors / Laboratory Accreditation Board (ASCLD/LAB), 73% achieved accreditation for the first time after 1992.<sup>37</sup> While accreditation is not a promise of perfection, it enforces a kind of professional accountability and transparency that has benefited all stakeholders of forensic science for over 25 years.

Peter Marone is the Chairman of the *Consortium of Forensic Science Organizations (CFSO)*. On April 10, 2008, he testified before the United States House Subcommittee on Crime, Terrorism, and Homeland Security. In his comments, Marone warned of the problems that state oversight commissions can present:

“Many laboratories, if asked, will state that their oversight is provided by the accrediting body under which they operate. Some people would say that this is the fox guarding the hen house and there is something inherently wrong with this process. However every other oversight board, whether it be commercial, medical, legislative or the legal, has oversight bodies which are comprised of the practitioners in that profession. It makes sense that the most knowledgeable individuals about a particular topic would come from that discipline. But that does not seem to meet the current needs. The key to appropriate and proper oversight is to have individuals representing the stakeholders, but that these individuals must be there for the right reason, to provide the best possible scientific analysis. There cannot be any room for preconceived positions and agenda driven positions. Unfortunately, we have seen this occur in some States.”<sup>38</sup>

Critics of accreditation, including Peter Neufeld, have argued that accreditation cannot be trusted because it calls for laboratories to be inspected by other forensic experts – a kind of self-regulation that supposedly fails to establish the oversight necessary to ensure that laboratories are held to account.

What these critics fail to recognize is what the authors term the “economy of accreditation,” where a pool of specially trained and monitored assessors have a strong incentive to be brutally thorough and objective during their inspection of a laboratory. The very reputations of the assessors, the likelihood that they will be allowed to participate in future inspections, and the desire to make good use of their valuable time (usually requiring several days away from home and work) are all compromised by failing to conduct a comprehensive and rigorous inspection. It is this economy of incentives that ensures the effectiveness of professional peer-based accreditation, and is why it is used so frequently and successfully in other industries.

**“The *Innocence Project* needs attention and money to drive its public policy agenda. In the age of *CSI*, *New Detectives*, *Cold Case Files*, and *Crossing Jordan*, taking on crime laboratories will turn heads more quickly than esoteric procedural debates among litigators.”**

But peer-assessors also have another incentive to hold a laboratory accountable for compliance to accreditation standards. A laboratory that fails to do good work damages the reputation, fairly or not, of everyone who calls themselves a forensic scientist.

No competent and thoughtful assessor is willing to tolerate that.

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For more information about data tabulated for this study, please visit the *Crime Lab Report* library at [www.crimelabreport.com](http://www.crimelabreport.com).