



**TESTIMONY OF PETER NEUFELD  
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SENATE JUDICIARY COMMITTEE HEARING  
“IMPROVING FORENSIC SCIENCE  
IN THE CRIMINAL JUSTICE SYSTEM”  
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Thank you Chairman Leahy, Ranking Member Grassley, and members of the Committee, for the opportunity to testify once again to discuss how our collective efforts can support the scientific needs of the forensic science community. My name is Peter Neufeld and I am the co-director of the Innocence Project, affiliated with the Cardozo School of Law, which co-director Barry C. Scheck and I founded in 1992. The project, which celebrated its 20 year anniversary this year, is 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 miscarriages of justice.

The development of DNA testing has allowed the Innocence Project to help exonerate 293 factually innocent Americans – 17 of whom were on death row awaiting execution. It is important to note, however, that DNA testing is probative of innocence or guilt in less than 10% of all felonies. Other forms of forensic evidence may be probative in a large percentage of those other cases. Thus the need to be as sure as possible about the probative value of non-DNA forensic evidence is critical to the integrity of our criminal justice system.

This is particularly true given the fact that DNA exonerations have demonstrated the importance of improving non-DNA forensics. These cases have provided an opportunity to retrospectively examine what went wrong, causing the system to find innocent people guilty beyond a reasonable doubt of crimes they did not commit. That research has yielded an important statistic: unvalidated and/or improper forensic evidence was the

second-greatest contributing factor to those erroneous convictions.<sup>1</sup> Those cases show what the National Academy of Science report, *Strengthening Forensic Science: A Path Forward*, documents – that the insufficient scientific foundations of non-DNA forensic evidence have tremendous potential to mislead the criminal justice system away from the real perpetrators of crime, and that the system must use peer-reviewed science to address these scientific shortcomings in order to improve the reliability of forensic evidence. If the nation does this, we will increase the accuracy of criminal investigations, the strength of prosecutions, and the integrity of convictions.

In Washington, DC in 1981, a 27-year-old woman was brutally raped, sodomized, and robbed in her Capitol Hill apartment.<sup>2</sup> The victim observed her attacker for about two minutes in the dim light of the street lamps through her window before she was blindfolded. A police officer speaking to Kirk Odom, who was 18 years old at the time, on an unrelated matter five weeks after the assault thought he looked like the composite sketch of the attacker and put a photograph of a 16-year-old Odom in a photo array for the victim. Odom was identified by the victim from the photo array. At trial, the identification was supported by an FBI agent’s testimony that a hair from the victim’s nightgown was “microscopically like” Odom’s, and the government’s brief summarizing the agent’s testimony stated, “This was significant because it was a very rare phenomenon; only eight or ten times in the past ten years, while performing thousands of analyses, had [the FBI agent] reported that he could not distinguish even microscopically between two or three known samples.”<sup>3</sup> After a few hours of jury deliberation, at the young age of 18 years, Kirk Odom was convicted for a crime he did not commit.<sup>4</sup>

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<sup>1</sup> “Unreliable or Improper Forensic Science.” The Innocence Project, available at <http://www.innocenceproject.org/understand/Unreliable-Limited-Science.php>.

<sup>2</sup> Hsu, Spencer S., “Kirk Odom, who served 20 years for 1981 D.C. rape, is innocent, prosecutors say,” *Washington Post* [Washington, D.C.] 10 July 2012, available at [http://www.washingtonpost.com/local/crime/kirk-odom-who-served-20-years-for-1981-dc-rape-is-innocent-prosecutors-say/2012/07/10/gJQAUjZNbW\\_story.html?wp\\_login\\_redirect=0](http://www.washingtonpost.com/local/crime/kirk-odom-who-served-20-years-for-1981-dc-rape-is-innocent-prosecutors-say/2012/07/10/gJQAUjZNbW_story.html?wp_login_redirect=0) (last accessed, 7/14/2012).

<sup>3</sup> *United States v. Kirk L. Odom*, Gov’t Brief at 7.

<sup>4</sup> Johnson, Carrie, “Justice Delayed: After Three Decades, An Apology.” NPR.org, 10 July 2012, available at <http://www.npr.org/2012/07/10/156547972/justice-delayed-after-three-decades-an-apology> (last accessed, 7/14/2012)

Odom maintained his innocence and his hopes were buoyed after hearing about the 2009 exoneration of Donald Gates, a D.C. area man whose conviction was also based in part on the same type of forensic evidence.<sup>5,6</sup> In 2011, mitochondrial DNA testing showed that the hair fragment found on the victim's nightgown could not be Odom's and DNA testing of stains from a pillowcase and robe at the scene of the crime indicated that another man committed the crime.<sup>7,8</sup>

Kirk Odom is actually innocent of the crime for which he was forced to serve 22 years in prison as a sex offender, 9 years on parole, and register as a sex offender for the rest of his life. Yet he is a luckier man than most other wrongfully convicted people, because post-conviction DNA testing finally enabled him to prove his innocence. He was officially exonerated last Friday, July 13<sup>th</sup>, on his 50<sup>th</sup> birthday.<sup>9</sup>

We are all lucky, too, because the criminal justice system can learn from this error. The lesson of Kirk Odom's case is not that we should point fingers at forensic science or forensic scientists; forensic scientists have been doing the best they can with the scant resources and insufficient scientific foundation they have had at their disposal. In fact, the FBI agent in Odom's case, when interviewed, stated, that microscopic hair comparison "was the best method we had at the time."<sup>10</sup> The lesson we must learn from such cases is that if we improve the scientific underpinnings of forensic practice, we can improve the forensic results that we rely on from forensic practitioners.

Forensic practitioners clearly want to use the best scientific techniques available to them to deliver analyses that are as solid and objective as possible – regardless of whether the

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<sup>5</sup> Ibid.

<sup>6</sup> See note 2.

<sup>7</sup> Ibid.

<sup>8</sup> Hsu, Spencer S., "Kirk L. Odom officially exonerated; DNA retesting cleared him in D.C. rape, robbery." *Washington Post* [Washington, D.C.] 13 July 2012, available at [http://www.washingtonpost.com/local/crime/kirk-l-odom-officially-exonerated-dna-retesting-cleared-him-in-dc-rape-robbery/2012/07/13/gJQAuH3piW\\_story.html](http://www.washingtonpost.com/local/crime/kirk-l-odom-officially-exonerated-dna-retesting-cleared-him-in-dc-rape-robbery/2012/07/13/gJQAuH3piW_story.html) (last accessed, 7/14/2012).

<sup>9</sup> Ibid.

<sup>10</sup> Hsu, Spencer S., "Convicted defendants left uninformed of forensic flaws found by Justice Dept." *Washington Post* [Washington, D.C.] 16 April 2012, available at [http://www.washingtonpost.com/local/crime/convicted-defendants-left-uninformed-of-forensic-flaws-found-by-justice-dept/2012/04/16/gIQAWTcgMT\\_story\\_1.html](http://www.washingtonpost.com/local/crime/convicted-defendants-left-uninformed-of-forensic-flaws-found-by-justice-dept/2012/04/16/gIQAWTcgMT_story_1.html) (last accessed, 7/14/2012).

science favors the defendant, supports the prosecution, or is inconclusive. In the vast majority of cases where forensic evidence misleads the system, it is the underlying science that is inadequate. In some cases, forensic analysts make mistakes that result from a lack of scientific training or leadership. In still other cases, forensic analysts' testimony goes further than the science allows because the techniques that have been practiced for years have not been subjected to the rigors of scientific research - and thus the probative value of a given technique has never been established in a way that properly guides such testimony. Because of scientific shortcomings, the actual probative value of the forensic evidence is not always clear, and often misunderstood. This has a propensity to mislead everyone – analysts, investigators, prosecutors, defense lawyers, judges and juries, even the public – with regard to how much they should rely on the stated results of any given non-DNA forensic analysis.

The broad group of stakeholders and scientists who wrote the NAS report *unanimously* concluded that nothing short of independent scientific research and standard setting would be sufficient to overcome the fundamental weaknesses of forensic evidence. It is important to note that while the NAS report recognizes that the shortcomings in forensic education, training, certification, and standards for testing and testifying contribute to wrongful convictions and threaten the integrity of forensic results,<sup>11</sup> no amount of training and certification, and no robust accreditation scheme without such scientific research and standard setting would validate the forensic practices that the NAS report called into question.

That is why the Innocence Project has maintained throughout this process that independent scientific research and standard-setting must be at the heart of forensic science reform. Science – understanding the relative accuracy and reliability of a forensic technique – is not a matter of opinion. We cannot disregard the uncertainty that the NAS report identified so clearly simply because we've been collectively laboring under false assumptions for dozens of years. What we need now is to work toward the

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<sup>11</sup> Strengthening Forensic Science in the United States: A Path Forward, Committee on Identifying the Needs of the Forensic Science Community, The National Academies Press (2009), p 6. (hereinafter, *NAS Report*).

accurate forensic evidence base that only science can provide, and that all criminal justice stakeholders obviously want and need. Now is the time to provide our justice system with those answers. We must not shy away from embracing the depth of scientific improvement necessary to enable the most reliable forensic evidence possible. Doing anything less would provide us all with only the illusion of the justice and safety we rightly expect from our criminal justice system.

The Innocence Project, like many others who have participated in the process led by Senator Leahy over the past several years, strongly believes that the NAS report provided a critical wakeup call regarding the elemental scientific shortcomings that must be addressed in forensic science, and that it provided a roadmap to addressing the major improvements in the forensic system. While the findings of this expert scientific panel sounded an alarm about the criminal justice system's forensic practices, we must recognize that it provides Congress with a tremendous opportunity to provide for the needed improvements and support for this critically important field. Following the report's recommendations will allow us to increase the accuracy of criminal investigations; strengthen criminal prosecutions; bring justice to victims; conserve resources so law enforcement can dedicate them toward finding the true perpetrators of crime; and protect the innocent from wrongful conviction.

The Innocence Project applauds Chairman Leahy for the leadership he has shown by bringing a large group of stakeholders together to consider the path forward. We have been honored to play a part in that process since the beginning, and we are committed to continuing to work with you and your excellent staff to enact legislation that ensures that forensics enjoys a strong scientific underpinning and that improvements that are needed are incorporated as seamlessly as possible. It is only by working together, guided by science, that will we see that true reform occurs.

We are committed to working with the Senate Judiciary Committee and the many Members of Congress who are committed to forensic science reform on making use of existing resources in relevant agencies of the U.S. government to support a national forensic science agenda in its areas of expertise. We continue to believe that, to the

extent possible, the National Science Foundation (NSF) and the National Institute of Standards and Technology (NIST), the government's world-renowned and highly respected science agencies, would serve as the most appropriate home for the rigorous scientific research and basic and applied standard setting that need to be conducted—again, with feedback of practitioners. And we continue to believe that the Department of Justice (DOJ) should put that work into practice by using its expertise in oversight and enforcement.

In any reform endeavor, we believe there should be a strong relationship between the independent scientists charged with undertaking the research and standard-setting functions and the expert practitioners and other criminal justice stakeholders who use these techniques each day. It is those users who will abide by those standards, so it is essential they be able to adopt and follow them. We also believe that for the endeavor to succeed, it is important that the new standards be phased-in to the diverse set of crime laboratories across the country without causing a significant disruption to the criminal justice system. Therefore, we believe that practitioners and affected stakeholders have a critical role to play in advising and providing feedback to the scientific research and standard setting process. Advice and feedback should also be divined from the vast experience accumulated through the apprenticeship model of learning among forensic practitioners, which holds great value.

Research scientists, who have a background in physics, biology, chemistry, statistics, cognitive science, engineering, and other sciences, from academic institutions or in science based agencies of the Federal government rather than in law enforcement agencies, have the training to scrutinize and improve the current body of research. The absence of an independent research infrastructure, upon which medicine, industry, and technology can rely, has prevented the full development of the field of forensic science and stymied the discovery of new technologies for law enforcement. Despite extensive and specialized forensic knowledge, forensic examiners do not have the specific research knowledge essential to develop empirical studies that will withstand criticism and create a comprehensive framework for forensic science reform. Forensic science is a multi-disciplinary field and the engagement, input, and leadership of the scientists, engineers,

and statisticians are critically needed for reform to work and to restore confidence in the accuracy and reliability of forensics.

It is time to establish an ongoing and permanent scientific system of support for forensic science in order to ensure ongoing evaluation and review of current and developing forensic science techniques, technologies, assays, and devices; and continued government leadership, both publicly and through private industry, in the research and development of improved technology with an eye toward future economic investments that benefit the public good and the administration of justice. And it is time for the resulting scientific body of knowledge to be translated into rigorous but practical standards by which crime laboratories across the country – large and small, urban and rural – can implement with the support and oversight of our federal law enforcement agency. This joint mission of science and law enforcement can only be accomplished with all stakeholders working together, sharing their expertise to make forensic science as valid, reliable, and employable as possible in order to best administer justice.

The additional benefit of doing such work is that the impact of such rigorous scientific research will be enormous. There is a global market for technologies with an application to public safety and the United States has the capacity to capture that market with a national commitment today. As the forensic market expands to meet this global need, more jobs will be created as scientists are engaged in research and more Americans are trained to conduct forensic analyses under American developed protocols and standards. However, as the United States begins to make greater investments in forensic technologies, it is even more important that the underlying science of the forensic techniques used in these technologies are understood and developing technologies scrutinized before they are implemented so that we do not find ourselves in the same position in the future.

Science can light the way to the path forward and it is upon the shoulders of justice that we can progress down that road. Together, we must make every effort to support the collaboration of these two communities, with each one teaching and learning from the other. Post-conviction DNA exonerations have shown the catastrophic consequences of

such a lack of partnership between science and the law – not only are innocent individuals incarcerated, but when the system is focused on an innocent suspect, the real perpetrator remains free to commit other crimes, just like the real perpetrator of the crimes for which Kirk Odom was wrongfully convicted.<sup>12</sup> With your support, we will not only significantly enhance the quality of justice in the United States, but we will also minimize the possibility that tragedies like that endured by the nation’s 293 (and counting) exonerees and their families will needlessly be repeated time and again.

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<sup>12</sup> In the wake the 293 DNA exonerations of the wrongfully convicted, that same DNA analysis has enabled the identification of 142 true suspects and/or perpetrators of those crimes. About 40% of the DNA exoneration cases where the real perpetrators have been identified, these offenders were convicted of other violent crimes subsequent to the crimes for which innocent people were convicted. Over 100 violent crimes might have been prevented if the state had caught he real perpetrator of the exoneration crime originally. Many cases could not be prosecuted due to the statute of limitations, etc.