
In The
Supreme Court of the United States

—◆—
SANDY WILLIAMS,

Petitioner,

v.

ILLINOIS,

Respondent.

—◆—
**On Writ Of Certiorari To
The Illinois Supreme Court**
—◆—

**BRIEF OF AMICI CURIAE NATIONAL
DISTRICT ATTORNEYS ASSOCIATION,
CALIFORNIA DISTRICT ATTORNEYS
ASSOCIATION, AMERICAN SOCIETY OF CRIME
LAB DIRECTORS, CALIFORNIA ASSOCIATION
OF CRIME LABORATORY DIRECTORS,
INTERNATIONAL ASSOCIATION OF CORONERS
AND MEDICAL EXAMINERS, NATIONAL
ASSOCIATION OF MEDICAL EXAMINERS,
CALIFORNIA STATE CORONERS ASSOCIATION,
SOCIETY OF WILDLIFE FORENSIC EXAMINERS
IN SUPPORT OF RESPONDENT**

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QUESTION PRESENTED

Whether the Confrontation Clause is violated when, in a criminal case, a qualified forensic scientist testifies for the prosecution, giving her own opinion which is based in part on reliable data and material prepared by other forensic scientists, of the type that scientists in the field ordinarily and reasonably rely on in reaching a forensic conclusion, when the scientists who prepared the underlying data and material are not called to testify.

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INTEREST OF AMICI CURIAE

This brief is submitted by the National District Attorneys Association, the California District Attorneys Association, the American Society of Crime Lab Directors, the California Association of Crime Laboratory Directors, the International Association of Coroners and Medical Examiners, National Association of Medical Examiners, the California State Coroners Association, and the Society of Wildlife Forensic Science, as amici curiae in support of respondent the state of Illinois.¹

The National District Attorneys Association (NDAA) is the largest and primary professional association of prosecuting attorneys in the United States. The association has approximately 7,000 members, including most of the nation's local prosecutors, assistant prosecutors, investigators, victim witness advocates, and paralegals. The mission of the association is, "To be the voice of America's prosecutors and to support their efforts to protect the rights and safety of the people." NDAA provides professional guidance and support to its members, serves as a resource and

¹ Pursuant to Supreme Court Rule 37.6, amici curiae state that no counsel for any party authored this brief in whole or in part, and that no entity or person, other than amici, their members, and their counsel, made any monetary contribution towards the preparation and submission of this brief. Pursuant to Supreme Court Rule 37.3, amici state that counsel of record for all parties have consented to the filing of this brief in letters on file with the Clerk's office.

education center, produces publications, and follows and addresses public policy issues involving criminal justice and law enforcement.

The California District Attorneys Association (CDAА), the statewide organization of California prosecutors, is a professional organization incorporated as a non-profit public benefit corporation in 1974. CDAА has over 2,500 members, including elected and appointed district attorneys, the Attorney General of California, city attorneys principally engaged in the prosecution of criminal cases, and attorneys employed by these officials. CDAА presents prosecutors' views in significant appellate cases affecting the administration of criminal justice statewide.

The American Society of Crime Lab Directors (ASCLD) is a non-profit professional society that was formed in 1974. The Society has over 600 members, composed of crime laboratory directors, managers, and supervisors from the United States, Canada, Puerto Rico, Virgin Islands, China, Costa Rica, Finland, Hong Kong, Ireland, Italy, England, Israel, Sweden, Switzerland, New Zealand, Singapore, Taiwan, Turkey, and Australia. The membership includes biologists, chemists, document examiners, physicists, toxicologists, educators, instructors, and law enforcement officers whose major function is the management of a crime laboratory. ASCLD's purposes include assisting the development of laboratory management, acquiring, preserving, and disseminating forensic based information, and promoting, encouraging, and maintaining the highest standards of practice.

The California Association of Crime Laboratory Directors (CACLD) has existed for over 40 years, and is a non-profit corporation. Its 140 members are managers, directors, and supervisors of both public and private sector forensic science laboratories, including two federal laboratories administered by the Drug Enforcement Administration and the Bureau of Alcohol, Tobacco and Firearms, 13 laboratories operated by the California State Department of Justice, Bureau of Forensic Services, and 19 public laboratories administered by city and county agencies. All but one of these laboratories are accredited by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), the largest forensic science accrediting body in the world. CACLD's purposes include improvement of management in forensic science laboratories, effective exchange of forensic science information, assisting in the preparation of regulatory matters affecting forensic science laboratories, and promoting, encouraging and maintaining the highest professional and ethical standards in forensic science laboratory services.

The International Association of Coroners and Medical Examiners (IACME) was founded in 1927, and includes members from the United States, Mexico, Canada, Georgia, the Philippines, Belgium, Saudi Arabia, Morocco, the Netherlands, and Australia. IACME conducts an accreditation program, and has over 70 years experience in the presentation of educational seminars to assist Coroners and Medical Examiners in performing their duties. This commitment

is enshrined in the Association's Mission Statement: "The International Association of Coroners and Medical Examiners is committed to advancing the accurate determination of the cause and the manner of death through the utilization of science, medicine and the law."

The National Association of Medical Examiners (NAME) is the national professional organization of physician medical examiners, medical death investigators and death investigation system administrators who perform the official duties of the medicolegal investigation of deaths. It was founded in 1966 and has over 1,000 members in the United States and internationally. Membership is open to all physicians, investigators, and administrators who are active in medicolegal death investigation. NAME's purposes include fostering the professional growth of physician death investigators, disseminating professional and technical information vital to the continuing improvement of the medical investigation of violent, suspicious and unusual deaths, promoting excellence in medicolegal death investigation, and the highest practice of ethical conduct.

The California State Coroners Association (CSCA) is a non-profit organization founded in 1968 to promote and protect the interests of all Coroner and Medical Examiner professionals throughout California. Coroners, Sheriff-Coroners, and Medical Examiners have the mandated mission to determine the circumstances, manner, and cause of all violent, sudden or unusual deaths. The Association promotes

professionalism and expertise in the field of medico-legal death investigation. CSCA is committed to communicating its members' concerns to government and regulatory bodies, advocating for sound public policies that affect coroners and medical examiners, promoting professional standards that enhance the effectiveness of medicolegal death investigation service to their communities, and providing excellence in training and education.

The Society for Wildlife Forensic Science was formed in 2009, and has 52 member laboratories, including federal, state, and private labs in this country, as well as laboratories from around the world. The member laboratories conduct forensic analysis and provide testimony for non-human forensic science matters such as poaching, endangered species violations, import violations, animal cruelty, illegal timber harvesting, sea food fraud, ecological disasters, and the analysis of animal material transferred during human crimes. The society includes among its goals the exchange of knowledge and the promotion of accreditation and certification of wildlife forensic scientists.

This case raises matters of concern to prosecutors and forensic science professionals. The decision by this Court will affect how crime labs examine and process evidence, and provide testimony in court. It will also affect how prosecutors prepare for and prove cases with DNA evidence and other types of forensic science evidence. The decision here may also affect what evidence can be proved in court, and even what

cases may be barred from prosecution, depending on rules of Constitutional dimension this Court may announce.

Amici have expertise in the matters pending before the Court in this case, and believe that their brief will be helpful to this Court in its consideration of these matters.



FACTS AND PROCEDURAL BACKGROUND

On the evening of February 10, 2000, while going home from work, L.J. was accosted on the streets of Chicago and raped by a stranger. She ran home, where her mother promptly called police. L.J. was transported to a hospital where Dr. Nancy Schubert examined her and collected vaginal evidence swabs. On February 15, a screening test at the Illinois State Police (ISP) Crime Lab confirmed the presence of semen. The ISP Crime Lab sent the vaginal sample and a reference sample of L.J.'s blood to Cellmark Diagnostic Laboratories in Maryland, a private accredited DNA lab, on November 29, 2000. On April 3, 2001, Cellmark returned the sample to the ISP lab, together with certain data tables of their findings as to L.J.'s reference sample and the rape sample, and an electropherogram graph, showing the DNA profile of the rapist's sperm.

In the interim, in August 2000, Sandy Williams had been arrested for an unrelated offense, which led to taking a blood sample for DNA testing. The DNA

profile from that sample was entered into the ISP Crime Lab database. When the result from the Cellmark analysis of the sperm from L.J.'s rapist was entered into the database, a match was found to Sandy Williams.

ISP analyst Sandra Lambatos then reviewed the data from the DNA profile of Williams from his blood sample, as well as the underlying data and electropherogram graph from Cellmark, and concluded that the rapist's DNA matched Williams. She determined through her own analysis of the specific alleles in both samples that the chance of a random match for the same DNA profile in the general population was one in 8.7 quadrillion (or even less, depending upon the ethnic population group).

On April 17, 2001, L.J. identified Williams in a lineup. On May 1, 2001, an indictment was filed charging Williams with several counts of aggravated sexual assault, aggravated kidnapping, and aggravated robbery.

The case went to trial before the court, sitting without a jury, on April 24, 2006. Analyst Lambatos testified to her opinion on the DNA match, based in part on the data and material from Cellmark. Defendant's objection that the opinion violated the Confrontation Clause was overruled. The court found defendant guilty on April 26.

On appeal, the Illinois First District Appellate Court and the Illinois Supreme Court affirmed the admission of the DNA opinion evidence from Lambatos,

and the conviction. The Appellate Court reversed a portion of the sentence, but the Illinois Supreme Court reversed the Appellate Court on the sentencing issue. *People v. Williams*, 385 Ill.App.3d 359, 895 N.E.2d 961 (2008); *People v. Williams*, 238 Ill.2d 125, 939 N.E.2d 268 (2010).

This Court issued a writ of certiorari to consider the application of the Confrontation Clause to these facts, in light of *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S.Ct. 2527 (2009), and *Bullcoming v. New Mexico*, ___ U.S. ___, 131 S.Ct. 2705 (2011).



SUMMARY OF ARGUMENT

Melendez-Diaz addressed a situation where the prosecution at trial presented no live witness to testify to the forensic expert opinion, submitting merely a written drug analysis report. *Bullcoming* did not take the matter much further. A written lab analysis report was admitted into evidence without the testimony of the analyst who authored the report. A live witness from the lab did testify about lab procedures, but he had not participated in analysis of the sample in question, there was no indication he had reviewed any of the underlying data and material to arrive at his own opinion, and he did not testify to any forensic opinion, either of his own or that of the original analyst – the opinion only came into evidence through the written report of the original analyst.

Neither the holdings of *Melendez-Diaz* and *Bullcoming*, nor their underlying rationales, provide the basis for concluding that a qualified expert who has reviewed the work, records, and data produced by other experts, reaches her own opinion based in part on data from other experts, then testifies to that opinion, offends the Confrontation Clause. In light of the realities of forensic science practice, the testimony of a qualified expert who is familiar with the applicable science, who reviews the underlying lab data and material from other scientists, and then arrives at her own forensic opinion to which she testifies, provides constitutionally meaningful and adequate confrontation. Anecdotal evidence of a small number of cases where DNA analysis errors were made does not provide grounds for reaching a different result.



ARGUMENT

I. THE CONFRONTATION CLAUSE DOES NOT PROHIBIT TESTIMONY OF AN EXPERT ANALYST THAT IS BASED ON THE WORK OF ANOTHER ANALYST

Appellant asserts error based on a claimed violation of the Confrontation Clause, citing *Crawford v. Washington*, 541 U.S. 36 (2004), *Melendez-Diaz v. Massachusetts*, 557 U.S. ___, 129 S.Ct. 2527 (2009) and *Bullcoming v. New Mexico*, ___ U.S. ___, 131 S.Ct. 2705 (2011). The Illinois Supreme Court concluded the Confrontation Clause was not violated in this

case. The Illinois Supreme Court correctly decided this issue.

In *Melendez-Diaz*, police initially found several plastic bags containing a white substance linked to the defendant. At trial on drug charges, following a procedure then available in Massachusetts, the prosecution presented three “certificates of analysis” attesting to the crime lab results (cocaine), without the testimony of any witness. See 557 U.S. at ___, 129 S.Ct. at 2530-2531. Applying *Crawford*, this Court ruled 5-4 that such a procedure denied the defendant the right to confrontation of witnesses under the Sixth Amendment.

Bullcoming involved a driving under the influence case, where the original analyst of the defendant’s blood sample (Caylor) did not testify, and a lab supervisor (Razatos) did testify. Razatos explained the general lab procedures, practices, and forms, but there was no evidence he had taken any part in the preparation of the report, reviewed Caylor’s underlying lab data in the specific case, nor reached his own opinion as to the defendant’s blood alcohol level. He was not asked to give his own forensic opinion based on any material he may have reviewed. Instead, after Razatos’s explanation of the general process, the state moved Caylor’s report into evidence, and that report provided the only forensic opinion evidence as to the defendant’s blood alcohol level. In short, *Bullcoming* was nothing more than *Melendez-Diaz* with the addition of Razatos giving a general overview of lab

procedures, without any case-specific review, analysis or opinion of his own.

The situation in the case at bar is materially different from those addressed in *Melendez-Diaz* and *Bullcoming*. First, unlike those cases, the underlying reports and data from the non-testifying experts from Cellmark were not submitted as evidence. Second, in this case, the testifying expert Sandra Lambatos personally reviewed and relied upon data and material from Cellmark, used it to arrive at her own opinion, then testified to her own opinion. The admission into evidence of Lambatos's own opinion is what petitioner challenges here.

The *Melendez-Diaz* majority at no point held that an expert opinion could not be introduced through live testimony of an expert who based her opinion on non-admissible matter, including hearsay, of the type reasonably relied on by experts in the particular field. This, of course, is the modern rule for expert testimony in the vast majority of jurisdictions in this country. It is the rule in the Federal Rules of Evidence (FRE). Federal Rule of Evidence 703. Forty-three states have adopted the federal rules (in whole or with some modifications), as have Puerto Rico, Guam, and the military. *Weinstein's Federal Evidence*, 2d ed., vol. 6, pp. T-1 through T-9.² Illinois had not fully adopted

² Seven states have not adopted the federal rules: California, Georgia, Kansas, Massachusetts, Missouri, New York and Virginia. *Weinstein's Federal Evidence*, supra, vol. 6, pp. T-1 through T-9.

the federal rules at the time of the trial in the instant case; the Illinois Supreme Court adopted the Illinois version of the rules in September 2010, effective January 1, 2011.³ However, twenty years ago, as to expert evidence, the Illinois Supreme Court adopted Federal Rules 703 and 705 in *Wilson v. Clark*, 84 Ill.2d 186, 417 N.E.2d 1322 (1981).

Jurisdictions which have not adopted the federal rules generally have a counterpart to Rule 703 which reaches the same result. See e.g. *People v. Angelo*, 88 N.Y.2d 217, 222, 644 N.Y.S.2d 460 (1966), and *People v. Radesi*, 11 A.D.3d 1007, 1008, 782 N.Y.S.2d 341 (2005); California Evidence Code § 801(b).⁴

Melendez-Diaz at no point suggested its holding was intended to undercut this longstanding and widespread rule. As the Fifth Circuit explained in *United States v. Williams*, 447 F.2d 1285, at 1290 (5th Cir. 1971, en banc) “. . . when the expert witness has consulted numerous sources, and uses that information, together with his own professional knowledge and experience, to arrive at his opinion, that opinion is regarded as evidence in its own right and not as hearsay in disguise.” See also *United States v. Henry*, 472

³ The Illinois version of Rule 702 makes it clear Illinois continues its adherence to the *Frye* test (*Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923)), rather than adopting the standard of *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993).

⁴ In fact, California Evidence Code § 801, enacted in 1965, was cited in the Advisory Committee Notes to FRE 703, which was adopted ten years later in 1975.

F.3d 910, 914 (D.C. Cir. 2007); *State v. Delaney*, 171 N.C.App. 141, 143, 613 S.E.2d 699, 700 (2005); *Pendergrass v. State*, 913 N.E.2d 703, 708-09 (Supreme Court Ind. 2009); *State v. Lewis*, 235 S.W.2d 136, 151 (Supreme Court Tenn. 2007). To the extent petitioner would have this Court exclude the testimony of analyst Lambatos, it would abrogate this longstanding rule when neither the text nor reasoning of *Melendez-Diaz* provide any basis for doing so.

Nor did *Bullcoming* give cause to believe this rule regarding expert opinion testimony based on the work of others was abandoned. Indeed, the opinion of this Court in *Bullcoming* specifically noted the prosecution in that case did not assert that the witness Razatos had any independent opinion concerning the defendant's blood alcohol level. ___ U.S. at ___, 131 S.Ct. at 2716; see also concurring opinion of Justice Sotomayor, ___ U.S. at ___, 131 S.Ct. at 2722.

There is good reason why *Melendez-Diaz* and *Bullcoming* do not serve as a basis for rejecting the admissibility of expert testimony based on reliable hearsay of the type normally considered by experts in the field. Both cases are based on the rule of *Crawford* as to the meaning of the Sixth Amendment Confrontation Clause. But *Crawford* only applies to hearsay admitted for the truth of the matter. It does not apply to statements that are not admitted for the truth of the matter. *Crawford*, supra, 541 U.S. at 59, fn. 9. Hearsay material relied on by an expert, when it is admitted at all during the testimony of the expert, is *not* admitted for the truth of the matter. See

FRE 703, and comment to 2000 revision; see also *United States v. Henry*, supra, 472 F.3d at 914.

Supporting this argument is the fact that the evidentiary rules concerning hearsay used as the basis for expert opinion are not codified as hearsay exceptions, nor are they in the part of the Evidence Rules dealing with hearsay. Rules 702, 703, and 705, dealing with the basis of expert testimony, is in Article VII of the federal rules, entitled “Opinions and Expert Testimony.” The evidence rules defining hearsay and hearsay exceptions are in Article VIII. While Illinois did not adopt its full version of the evidence rules until 2010, it follows this same structure. Jurisdictions not using the federal rules approach the issue in a similar way. California, for instance, deals with material that is the basis for expert opinion in California Evidence Code §§ 801 and 802, which are in Division 7 of the California Evidence Code (entitled “Opinion Testimony and Scientific Evidence”), not in Division 10 of that code, dealing with hearsay.

One should also note that an expert who has relied on hearsay matter will not always, or even usually, be allowed to testify over objection on direct examination as to the details of the underlying hearsay. FRE 703, comment to 2000 revision; *United States v. Henry*, supra, 472 F.3d at 914. In this regard, it is noteworthy that in the case at bar, the details of the Cellmark report on which Lambatos relied were not elicited on direct examination by the prosecution. Joint Appendix (hereafter J.A.), at pp. 49-58. Rather, it was the defense on cross-examination

which brought into evidence the details of the Cellmark data and report. J.A. pp. 62-85.

When the prosecution feels the need to reference the underlying details of the hearsay material for the jury to fully understand the opinion of the testifying expert, the trial court may in its discretion permit the testimony, with a limiting instruction, directing the trier of fact not to consider the evidence for the truth of the matter. FRE 105, 703. Enforcement of these rules can protect the rights of a criminal defendant while still permitting the admission of the expert opinion.

Based on the foregoing, there is no reason to conclude *Melendez-Diaz* or *Bullcoming* prohibit the admissibility of the testimony of an expert such as Lambatos, when her testimony is based on data from an underlying expert of the type reasonably relied on by experts in the field.

II. THE UNDERLYING RATIONALES OF *MELLENDEZ-DIAZ* AND *BULLCOMING*, THAT FORMALIZED TESTIMONIAL MATERIAL REQUIRES CONFRONTATION, DO NOT COMPEL EXCLUSION OF THE TESTIMONY OF ANALYST LAMBATOS

Analysis of the confrontation basis for *Melendez-Diaz* and *Bullcoming*, as those precedents apply to this case, reveals that the underlying legal principles do not compel the exclusion of the testimony of analyst Lambatos here.

As the record in this case illustrates, scientific analysis in the modern forensic laboratory may involve work by a number of individuals. The forensic rape exam sample from the victim L.J. passed through the hands of Dr. Schubert who took the sample; the ISP officer who booked the sample into evidence; ISP forensic biologist Bruce Hapack who tested for and confirmed the presence of semen; the ISP employees who batch packaged several sealed case samples, including this one, for shipment; the FedEx employees who transported the package to Cellmark Diagnostic Laboratory in Maryland; and the scientists at Cellmark who examined the sample and derived a genetic profile of the sperm. However, the key evidence was the forensic opinion of forensic biologist Sandra Lambatos, who examined and relied on the data and records of the Cellmark scientists, including the electropherogram of the genetic content (DNA profile) of the semen sample. J.A. p. 62. Lambatos concluded the genetic profile of the rapist's semen matched the genetic profile of petitioner Williams, with the chance that the same genetic profile would occur at random in the general population being in the quadrillions. Lambatos, the witness who arrived at this opinion, testified at petitioner's trial, and was subject to cross-examination. Petitioner objects that the scientists at Cellmark who produced part of the data that Lambatos relied on did not testify.

In considering whether the testimony of Lambatos violated the confrontation precedents of this Court, one must look to the lowest common denominator of

the rationale accepted by the majority in *Melendez-Diaz* and *Bullcoming*, which requires focus on whether the evidence at issue amounts to “formalized testimonial materials” within the reach of the Confrontation Clause. See *Melendez-Diaz*, concurring opinion of Justice Thomas, 557 U.S. at ___, 129 S.Ct. at 2423. By declining in *Bullcoming* to join in footnote 6 of Justice Ginsberg’s opinion, Justice Thomas affected the rationale of the majority in that case. Footnote 6 stated that in determining whether the evidence at issue was covered by the Confrontation Clause, one must look to whether the evidence statement or report had as a “primary purpose” the “establish[ing] or prov[ing] past events potentially relevant to later criminal prosecution.” ___ U.S. at ___, 131 S.Ct. at 2714.

Justice Thomas had previously dissented from the use of the “primary purpose” test for confrontation analysis in *Davis v. Washington*, 547 U.S. 813 (2006), proposing instead analysis based on whether the evidence was “formalized testimonial material.” See concurring and dissenting opinion of Justice Thomas, 547 U.S. at 834-842. “Formalized testimonial material” may be viewed as a subset of “primary purpose” material. But the “primary purpose” view does not represent the opinion of the Court in *Bullcoming*, because it did not command five votes. Since only the “formalized testimonial materials” subset had the agreement of a majority of the Court, Justice Thomas’s view establishes the high water mark for the reach of the Confrontation Clause in forensic lab

evidence cases. See *Marks v. United States*, 430 U.S. 188, 193 (1977).

An understanding of the meaning of “formalized testimonial materials” can be found in Justice Thomas’s opinion in *Davis*. Justice Thomas explained the framers intended the Confrontation Clause to prevent the practice employed under the Marian statutes in 16th century England, when witnesses were examined outside the presence of the court, the examinations were transcribed, and the transcripts were then commonly submitted later to the court as part of the trial, without the witnesses testifying. 547 U.S. at 835-836. Based on this historical analysis of the Confrontation Clause, Justice Thomas concluded that the clause was directed only at “formalized testimonial materials, such as affidavits, depositions, prior testimony, or confessions.” *Id.*, at 836.

In *Davis*, this Court considered two joined cases. In one, a police officer responding to a domestic violence call questioned a woman. The questioning was in the nature of a conversation, not a formalized dialogue, the woman was not Mirandized, she was not in custody, and there was no other indication of solemnity or formality in the taking of her statement. Justice Thomas concluded that this statement did not have the solemnized or formalized character of an affidavit, deposition, prior testimony, or confession, and thus was not covered by the Confrontation Clause.

547 U.S. at 835-842. Justice Thomas in explanation noted:

Affidavits, depositions, and prior testimony are, by their very nature, taken through a formalized process. Likewise, confessions, when extracted by police in a formal manner, carry sufficient indicia of solemnity to constitute formalized statements and, accordingly, bear a “striking resemblance,” . . . to the examinations of the accused and accusers under the Marian statutes. 547 U.S. at 837.

He went on to observe that although many interactions between witnesses and law enforcement officials could have adverse legal consequences for the speaker who is dishonest, that “ . . . does not, however, render those statements solemnized or formal in the ordinary meaning of those terms.” 547 U.S. at 838, fn. 3.

Justice Thomas concluded in *Melendez-Diaz* that the “certificates of analysis” as to the drugs admitted without any testimony were “quite plainly affidavits,” and thus “formalized testimonial materials,” (Thomas, J. concurring, 557 U.S. at ___, 129 S.Ct. at 2543). The lab report of the blood alcohol level admitted into evidence in *Bullcoming* was comparable to the *Melendez-Diaz* certificates.

The same cannot be said for the Cellmark materials at issue in the case at bar. The underlying laboratory work by some scientists, which in turn is relied on by another scientist (Lambatos), who then testifies in court, does not amount to “formalized

testimonial materials” covered by the Sixth Amendment so as to exclude the testimony of the analyst Lambatos.

First, the lab work by the Cellmark scientists was not offered by the state into evidence, one clear indication that the material was not used as, nor did it take on the character of, formalized testimonial material.

Further, the Cellmark material included charts with the genetic profiles of both the victim and the sperm donor, and the output from the instrument which actually analyzed the amplified the DNA sample – a line graph, or eletropherogram, representing a visual depiction of genetic material in the rapist’s sperm sample. Such materials are not affidavits, depositions, prior testimony or confessions. Indeed, they are not solemnized, formalized or prepared in a fashion so that a court or jury could look at them and understand or interpret them to incriminate the petitioner, or anyone else, either alone or in combination with other evidence. Neither an electropherogram line graph, nor a chart with a list of alleles at specified loci, becomes incriminating in character until an expert like Lambatos reviews the data, interprets it, concludes from the electropherogram that certain specific alleles are attributable to the sperm donor, compares and matches those to the alleles found in the analysis of the petitioner’s DNA sample taken at his unrelated arrest, and then, relying on population genetic studies of the frequency of the alleles in the general population, makes a probability calculation for

that combination of alleles (or DNA profile) occurring in a single person. Lambatos explained in her testimony how she did all of that, reviewing, analyzing and interpreting the data itself, to arrive at her opinion. J.A. pp. 62-85.

It is significant to note that Lambatos did not simply parrot back a report from Cellmark. On cross-examination, she explained how she interpreted one of the electropherogram graph peaks differently than had been reported out by Cellmark, although her final conclusion as to the genetic profile of the rapist's sperm was the same. J.A. pp. 78-79. In addition, her review of the electropherogram allowed her to reach an opinion as to whether or not the forensic sample suffered from degradation, which could have affected the interpretation. J.A. pp. 81-82.

The underlying data from Cellmark does not have the character of formalized testimonial materials when, as here, the data and lab material cannot be understood by the trier of fact without the analysis and interpretation of the expert Lambatos, the raw data was not even offered in evidence by the state, and neither the Cellmark data charts nor the electropherogram graphs were admitted into evidence. As used to provide a basis for the analysis and opinion of Lambatos, the materials are not formalized testimonial materials under the Confrontation Clause, *Melendez-Diaz* and *Bullcoming*.

III. TESTIMONY OF AN ANALYST SUCH AS LAMBATOS PROVIDES A CRIMINAL DEFENDANT CONSTITUTIONALLY MEANINGFUL AND SUFFICIENT OPPORTUNITY TO CONFRONT WITNESSES AND TEST THE RELIABILITY OF MODERN FORENSIC DNA OPINION EVIDENCE

A. DNA Opinion Testimony by an Analyst Who Bases Her Opinion on Data from Other Scientists Is Both Consistent with Forensic Scientific Practice and Sufficient Under the Constitution

Another point reflects on the propriety of the expert testimony by analyst Lambatos, or any similarly situated expert. It relates to the reality of scientific work as it takes place in the modern forensic laboratory and as it was described in the record of this case.

DNA analysis involves many steps or processes:

- screening for the presence of biological material that may be of interest;
- extraction of DNA;
- quantification of DNA;
- amplification (copying) of DNA through PCR (polymerase chain reaction);
- analysis of the DNA to separate and detect alleles, using a machine which produces a graph, called an electropherogram, which presents a visual depiction of the genetic material, which can then be interpreted to give a DNA profile;

- comparison of the DNA profile results to other samples (i.e. comparison of the electropherogram charts and profile from an unknown rapist to the known DNA profile of a suspect);
- when there is a match, calculating the likelihood of a random match for the same genetic profile within the general population.

See Butler, *Forensic DNA Typing: Biology, Technology and Genetics of STR Markers*, Elsevier Academic Press (2d Ed. 2005), pp. 5-8; Chamberlain, "A Simplified Overview of Forensic DNA Testing," *The Journal of the Institute for the Advancement of Criminal Justice*, Issue 3, 2009, pp. 5-6.

While some DNA laboratories assign a single analyst to conduct all of these steps on a given sample or case, others employ a batch process using teams of analysts. With this method, each separate step of the process will be assigned to a different analyst, in an assembly-line fashion. Samples, et al., "The Rotating Analyst – The NYC OCME Casework System," *Progress in Forensic Genetics 8, Proceedings of the 18th International ISFH Congress*, Sensabaugh, et al., editors, Elsevier (2000), pp. 619-621. Individual labs may rotate the analysts from station to station on a regular basis (i.e., weekly). According to its proponents, "[t]he batch processing method allows high throughput without sacrificing quality." *Id.*, p. 620. Both the New York City Office of the Chief Medical Examiner DNA lab and the FBI DNA lab use an assembly-line batch processing system. *Id.*, p. 619;

U.S. Department of Justice, Office of the Inspector General, "The FBI DNA Laboratory: A Review of Protocol and Practice Vulnerabilities," May 2004, Chapter 3, I, B, 1.

High throughput is significant to many DNA labs. The New York City Office of the Chief Medical Examiner reported more than a decade ago that it was performing DNA testing on approximately 3000 cases per year. Samples, *supra*, p. 619. The California Crime Laboratory Review Task Force reported that state has 27 public crime labs accredited in biology (DNA) analysis, with a backlog of 15,779 DNA case requests as of December 31, 2007. California Crime Laboratory Review Task Force, *An Examination of Forensic Science in California, November 2009*, pp. 66, 77-78. With this type of caseload pressure, the ability to accurately process a large volume of samples takes on greater importance.

A batch, assembly-line procedure was apparently used in the instant case. While analyst Lambatos did not personally travel from Illinois to Maryland to view the DNA testing of the forensic rape sample, she testified to being aware that Cellmark used the batch processing system, rather than having a single analyst perform all of the steps. She also testified that to her knowledge, Cellmark is an accredited DNA laboratory, which would be one cause for her to conclude

that she could reasonably rely on the data she received from that lab.⁵ J.A. pp. 49, 74.

Given this accepted scientific practice, if the rule petitioner seeks were adopted, one should consider which or how many analysts must testify to satisfy the Confrontation Clause. Different steps in the analysis involve handling the sample, putting it through physical, chemical, or machine operated processes, then analyzing the results, before moving the sample on to the next step. Thus, it is not (as amicus curiae the Innocence Project suggests) a matter of having a single scientist from Cellmark testify. One sample may be processed by as many as seven or eight individuals, depending on the organization of the assembly-line. When the assembly-line uses the sample (and not the case) as the individual unit, if a case has more than one sample (i.e., a vaginal swab, a clothing stain, and a bedding stain), each sample will move through the assembly-line(s) separately, so it is conceivable the number of analysts involved in the case will multiply. It is neither practicable nor consistent with scientific practice to expect that in such a system, a single analyst will have witnessed, much less conducted, all of the steps in the process for any particular sample, since to do so would increase the number

⁵ Forensic laboratory accreditation programs to develop and ensure quality assurance compliance date back to 1981. See *Crime Lab Report*, December 2007 (available at http://www.crimelabreport.com/monthly_report/12-2007.htm, last viewed 10/18/11). The evidence in this case was tested in 2000.

of analysts whose time was occupied by a particular sample, watching over the shoulder of others throughout all of the procedures, when the purpose of the batch system is to streamline the process.

The rule petitioner proposes would require each of the analysts who individually process the sample in each separate step to testify. Such a result would have a serious, negative impact on forensic science work. The time lost by multiple analysts traveling to court and testifying would impact the amount of work that could be done in the laboratory. Faced with this prospect, some crime labs might abandon, or not consider using, the efficiencies allowed by the batch processing system, which in turn would impact crime lab capacity, and case backlogs.⁶

Any rule that inhibits or discourages the ability of a DNA lab to accurately and efficiently process the volume of cases it must deal with will impact not only the guilty whose apprehension and prosecution may be delayed. It will impact victims who will suffer at the hands of repeat offenders until they are identified and apprehended. It will also impact the innocent who may wait to be cleared from suspicion or exonerated from mistaken conviction, since, as this Court has noted, DNA testing has an unparalleled ability not only to identify the guilty, but also to exonerate

⁶ The reason the Illinois State Police Crime Lab employed Cellmark to do DNA analysis on forensic samples was to reduce its backlog. J.A. pp. 49-50.

the innocent. *District Attorney's Office v. Osborne*, 557 U.S. ___, 129 S.Ct. 2308, at 2310 (2009). In times of limited resources, the adoption of procedures which reduce the ability of DNA labs to perform this important work in a timely fashion makes little sense from a practical or Constitutional point of view, particularly when the witness who rendered the key forensic opinion – in this case Sandra Lambatos – did in fact testify and submit to cross-examination.

It is not a sufficient answer to say that few cases go to trial, so the impact of such a rule will be limited. For laboratories employing the batch processing method, sending seven or more analysts to court for testimony on every case that does go to trial will be highly disruptive to overall lab operations. Also, since DNA evidence tends to be used in serious cases (murders, sex assaults, crimes of violence) with significant penalties, and because DNA evidence is so powerful, a defendant facing a substantial prison sentence will be motivated to demand that all necessary witnesses appear to authenticate each step of the analysis, hoping that at least one of the seven or more analysts necessary will be unable to testify at the time scheduled for trial, stalling the case in its tracks.

Nor, in a case such as this, can the fear that chance contamination led to a false positive result be a driving force to insist on confrontation of the bench analysts who worked on the rape sample. Cellmark did not receive or test a reference sample of petitioner Williams's blood or other DNA (Williams was not a suspect at the time Cellmark did its testing). Any

contamination would have to come from some source other than Williams, and that contamination must have been such that it produced, through a chance occurrence, a genetic profile that occurs less than one out of eight quadrillion times in the general population.

Nor can DNA testing be equated to the blood alcohol analysis discussed in *Bullcoming*, where Justice Ginsburg (in section IV of her opinion, a section which was not the opinion of the Court) noted that New Mexico, which preserves sufficient blood sample for retesting, could have done so with a new analyst, and presented the testimony of that analyst live. ___ U.S. at ___, 131 S.Ct. at 2718. First, the number of steps involved in DNA testing, and the complicated nature of those steps, necessarily lead to a much longer retesting process. More importantly, in many DNA cases, the forensic sample is so small that it is entirely consumed in the initial testing process, making retesting impossible.

B. A Rule Requiring Direct Testimony by All Scientists Who Produce Data Relied on by the Testifying Scientist Is Not Consistent With Actual Scientific Practice, Constitutionally Unnecessary, and Will Result in Undue Restrictions on the Practice of Many Forensic Science Disciplines and the Admission of Scientific Evidence

Petitioner's proposed rule would have an effect on more than just the processing and courtroom

presentation of DNA evidence. Other forensic disciplines will be affected as well. Certainly one is forensic pathology.

An autopsy will involve the examination and dissection of the body, with the pathologist's observations recorded at or near the time they are made, the taking of photographs, x-rays, body fluid samples for toxicology examination, and tissue slide samples for microscopic examination. See Saukko and Knight, *Knight's Forensic Pathology*, Edward Arnold (Publisher), 2004, pp. 29-32, 35; Adelson, *The Pathology of Homicide*, Charles C. Thomas (Publisher), 1974, pp. 63-65, 68, 70-101. These materials serve not only in the immediate examination, study, and conclusions at the time the autopsy is pending, but also for future reference in the event of later investigation, or in cases of homicide, a future criminal trial. However, it is not always the case that the autopsy pathologist personally examines all the material, or conducts all the tests. A blood sample may be tested for alcohol or drugs by a toxicologist. An x-ray may be reviewed and the results reported by a radiologist. Tissue slide samples may be prepared by a histologist. As in any branch of medicine, the doctor will rely on these testing procedures, conducted by others, in making his/her diagnosis. The rule proposed by petitioner would operate contrary to actual medical and scientific practice by requiring that each of the underlying specialists on whom the autopsy pathologist relied in reaching his/her opinion must come to court and testify.

Another aspect of how petitioner's proposed rule would affect autopsy evidence should also be considered. With modern investigative techniques, it has been possible to re-examine unsolved cases that are many years old, and conclusively identify the perpetrator. See e.g. *People v. Nelson*, 43 Cal.4th 1242 (2008), in which the 1976 rape murder of a 19 year old college student was solved 26 years later in 2002 through DNA analysis.

It does not take a geriatric specialist, or a mortality rate actuary, to recognize that in many of these cases, the original pathologist will no longer be available when the crime is solved and the case brought to trial. But availability or unavailability has no constitutional significance if the Confrontation Clause applies to the evidence at issue, and the defendant has not had a prior chance to cross-examine the witness. *Crawford* and *Melendez-Diaz* point out that, "absent a showing that [the witnesses covered by the Confrontation Clause] were unavailable to testify at trial *and* that petitioner had a prior opportunity to cross-examine them, petitioner was entitled to 'be confronted with' the [witnesses] at trial." *Crawford*, supra, 541 U.S. at 54; *Melendez-Diaz*, supra, 557 U.S. at ___, 129 S.Ct. at 2532 (emphasis in the original).

Should the Court in the case at bar set out a rule so broad it would bar the testimony of a substitute pathologist who had reached his/her own opinion after reviewing the autopsy report, records, notes, photos, and x-rays of the original pathologist, the result would

be that in many murder cases, the prosecution would be left without the means of proving the manner and cause of death, or authenticating post-mortem samples important for forensic analysis. Given that there is no statute of limitations for murder, and that modern DNA technology now permits conclusive identification of many homicide perpetrators years, even decades after the crime, this is a shocking result.

This is not just a hypothetical matter. The situation in *People v. Beltran*, 2011 WL 1167916, 2011 Cal.App. Unpub. Lexis 2425 (2011)⁷ illustrates the point. The defendant was charged with a murder, committed in San Francisco on October 22, 2000. After the crime, he fled to Mexico. He was apprehended there in June 2006, and returned for prosecution in 2007. While the defendant was a fugitive, Dr. Boyd Stephens, the Chief Medical Examiner of San Francisco who conducted the autopsy, had died in 2005. Dr. Amy Hart, who was Dr. Stephens's successor, reviewed Dr. Stephens's autopsy notes and autopsy report, and reached her own opinion as to the cause of death, to which she testified at trial. Dr. Stephens's

⁷ The opinion by the California First District Court of Appeal in this case of March 30, 2011, was not certified for publication under California Rule of Court 8.1105. The California Supreme Court granted a hearing to review the case on June 15, 2011; the matter is still pending in that court. The case is not cited here for any principle of law, but rather for its factual circumstances, set out in the trial court record and described in the opinion of the Court of Appeal.

autopsy report was also admitted into evidence. On appeal, the defendant contended the admission of the autopsy evidence, including the testimony of Dr. Hart, violated the defendant's right to confrontation under *Crawford*. If petitioner's proposed rule were adopted, the prosecution in *Beltran* would be unable to prove the autopsy results.

Along similar lines, in Illinois alone, in the 12 month period from December 2009 through November 2010, three reported appellate cases describe homicides in which the pathologist who performed the autopsy had retired, so a different pathologist was called in to review all the underlying material and render an opinion as to the cause of death. *People v. Leach*, 405 Ill.App.3d 297, 939 N.E.2d 537 (2010); *People v. Pitchford*, 401 Ill.App.3d 826, 929 N.E.2d 655 (2010), cert. den. ___ U.S. ___, 131 S.Ct. 2959 (6/6/11); *People v. Nugen*, 399 Ill.App.3d 575, 926 N.E.2d 760 (2009). Certainly many other cases (Illinois cases not yet at the appellate level, or not resulting in a published appellate opinion, and cases from other states) will have this issue.

The import of the rule petitioner proposes should also be considered in light of another reality of forensic pathology practice. A murder trial will commonly take place at least one year, and in some instances a decade or more, after the autopsy. The National Association of Medical Examiners (NAME) sets a caseload of up to 250 autopsies per examiner per year

as normal. A caseload in excess of that figure is considered a “Phase I” deficiency for NAME accreditation purposes, with 325 autopsies per year or more marking a more serious “Phase II” deficiency. See DiMaio, et al., *Forensic Pathology*, 2d ed., CRC Press, 2001, p. 19; NAME Accreditation Checklist, pub. 11/3/09, p. 25; *Strengthening Forensic Science in the United States: A Path Forward*, National Academies Press, 2009, pp. 9-13.

Examples from major forensic pathology agencies add further insight into case load levels. The Chief Medical Examiner for New York City employs approximately 32 medical examiners, who perform approximately 5,500 autopsies per year, or 172 autopsies per year for each examiner. See <http://www.nyc.gov/html/ocme/html/about/authority.shtml> (last viewed 10/18/11).

The King County, Washington Medical Examiner’s Report for 2009 shows six members of the Pathology Department (excluding the forensic anthropologist) responsible for 1,226 autopsies, 204 autopsies per examiner per year. See “King County Medical Examiner’s Office 2008 Annual Report,” pp. 9 and 126. The Arkansas State Medical Examiner’s Office employs four medical examiners who conduct 1000 autopsies per year, or 250 per examiner. See Arkansas State Crime Laboratory, State Medical Examiner website: <http://www.crimelab.arkansas.gov/sectionInfo/Pages/StateMedicalExaminer.aspx> (last viewed 10/18/11).

Thus, if a trial takes place just a year after the autopsy, the pathologist can be expected to have performed 150 to 250 autopsies since the one at issue in the trial; and of course, hundreds, perhaps thousands before that, depending on the length of his/her career. If the trial occurred ten years after the crime, the pathologist would have performed more than one thousand, perhaps more than two thousand autopsies. To suggest that the original pathologist will remember individual case details beyond those documented and recorded for the autopsy report, or preserved for later review in the autopsy photos, x-rays, tissue slides, and other autopsy records, is simply not realistic. When the original pathologist testifies in a homicide case months or years after the autopsy, he/she will quite properly rely on custom and practice, past recollection recorded, the business records of the autopsy description, records, and photos that he/she used to record and document the autopsy at the time it took place.

A qualified substitute pathologist would review exactly the same material in reaching a conclusion and testifying at trial. In such a circumstance, whether the testimony comes from the pathologist who performed the autopsy, or one who later reviewed the autopsy report, records, x-rays, slides, and photographs and reached his/her own opinion, the resulting testimony, both on direct and cross-examination, will be much the same.

There is one striking difference between the pathology situation and blood alcohol testing, or much DNA testing. In blood alcohol situations, and in many DNA situations, it may be possible to retest what remained of the blood sample or forensic sample (assuming the sample was saved). In the pathology situation, it would commonly and usually be impossible years after the event to repeat the autopsy examination with a different pathologist. The adoption of petitioner's proposed rule would serve as an effective bar to many murder prosecutions, notwithstanding the fact that qualified pathologists can and do rely on past autopsy materials and records produced by other practitioners to reach a medically reliable opinion as to cause of death – just as physicians in other branches of medicine rely on the work of other practitioners in reaching diagnosis opinions and making patient treatment decisions.

In terms of meaningful confrontation, the defense certainly has the ability to establish that the source of the facts behind the opinion of the testifying expert is the work of an earlier analyst or examiner. Should the defense wish to impugn the work history or practices of the original analyst or pathologist by bringing out that person's past history, such could readily be done through cross-examination of the testifying expert, or by other means, just as would be the case if the original expert had testified.

But even if the original pathologist was available to testify, his or her testimony about an autopsy conducted years ago, after a career involving hundreds, or thousands of autopsies, would not be any more constitutionally meaningful than the testimony of another qualified pathologist who reviewed the same material the original pathologist would now review in preparation for testimony about one particular autopsy out of hundreds or thousands.

Relating this point to the case at bar, each of the Illinois State Police forensic biologists who testified in this case (Karen Abbinanti, Brian Hapack, and Sandra Lambatos) had personally conducted the analysis for thousands of samples. J.A. pp. 8, 30, 46-47. There is no reason to believe that the scientists at Cellmark, which advertises that it “has performed DNA forensic analyses in tens of thousands of cases and for hundreds of thousands of offender samples,” would be any different.⁸ Nor is there any reason to expect their actual recollection or testimony of the testing steps undertaken for one particular DNA sample out of thousands would be any more meaningful.

⁸ See Orchid Cellmark website, Forensic DNA page, at <http://www.orchidcellmark.com/forensicedna.html> (last accessed 10/18/11). The name Orchid Cellmark, Inc. was adopted as the name of the corporation in 2005.

Forensic pathology, and DNA testing where the entire forensic sample was consumed in the original testing, are only two examples of this practical issue. Lifting of latent fingerprints from a crime scene, collection of sexual assault physical evidence, and many other forensic disciplines carry potential for the same problem. Adherence to a mechanical rule, without allowance for the testimony of a qualified expert who reached his/her own opinion based on reliable data prepared by others, will create an unreasonable and constitutionally unnecessary barrier to scientific forensic evidence in many situations, and limit the ability of the forensic science community to serve the criminal justice system and the public.

IV. ANECDOTAL EVIDENCE OF ISOLATED INSTANCES OF DNA TESTING ERRORS SHOULD NOT PROVIDE A BASIS FOR THE EXPANDED CONFRONTATION RULE PETITIONER PROPOSES

In its amicus brief before this Court, the Innocence Network notes the human element that is common to all forensic sciences, and cites “at least 15 exonerations where DNA evidence was tested prior to conviction.” Amicus curiae brief of the Innocence Network in Support of Petitioner, p. 3.

As noted above, the volume of DNA testing is very high. DNA forensic testing in this country began in the mid-1980’s, with the first conviction based on DNA evidence in 1987. Hibbert, “DNA Databanks:

Law Enforcement's Greatest Surveillance Tool?" 34 Wake Forest L.Rev. 767, 773 (1999). The first published appellate opinion in this country upholding the use of DNA evidence in a criminal case appears to be *Cobey v. State*, 80 Md.App. 31, 599 A.2d 391 (6/28/1989).⁹ As noted above, by 2000 the New York City Office of the Chief Medical Examiner alone reported a volume of 3,000 DNA cases per year in that laboratory. California reported over 17,000 DNA case analysis requests just in the year 2007. See California Crime Laboratory Review Task Force report, *supra*, at p. 64. The private DNA lab at Cellmark has tested tens of thousands of forensic samples, and hundreds of thousands of offender samples. See Orchid Cellmark website, Forensic DNA page, cited at footnote 7, above. Given these figures, it is fair to conclude that the overall number of DNA case analyses nationwide in the last 25 years is in the hundreds of thousands.

Your amici do not defend negligent, sloppy, or deficient lab practices which lead to inaccurate results. Amici are dedicated to the highest standards of forensic science and ethics. But given over two decades of forensic DNA analysis in this country, the fact that human beings made some type of mistake in 15 cases should not be surprising. Nor is it cause to sound the alarm, especially when many of the 15 cases cited involved errors that were not uncovered

⁹ Interestingly, the analysis in *Cobey* was done by Cellmark.

through confrontation and cross-examination. It is a slender reed on which to build a Constitutional principle.



CONCLUSION

Melendez-Diaz and *Bullcoming* did not alter the fundamental rule in the field of expert evidence that an expert may base an opinion on the work of another expert. In the real world of modern scientific forensic analysis, a criminal defendant's right to confront, cross-examine and test a forensic opinion on such matters as DNA testing is meaningfully and sufficiently protected when an analyst like Sandra Lambatos testifies. The adoption of petitioner's proposed rule would, in the pursuit of formalism without regard to real world practice or consequences, significantly impact forensic science and crime laboratory operations. Insistence on the presence in court of each of the persons who may have participated in the many steps of the DNA analysis will not secure for a criminal defendant any added benefit in actual confrontation beyond that which the defendant had when Ms. Lambatos testified. Yet petitioner's proposed rule would bar reliable evidence, and in many instances entire prosecutions, without giving a criminal defendant any true advantage in the quality of the confrontation that actually takes place in the trial court.

For the foregoing reasons, amici curiae respectfully request that the ruling of the Illinois Supreme Court be affirmed.

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Respectfully submitted,

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