

## SHORT LAW FIRM

425 W. Broadway, Suite A  
North Little Rock, AR 72114  
Phone: (501) 766-2207

**Lee D. Short**

**LeeDShort@gmail.com**

April 19, 2017

Arkansas Parole Board  
Arkansas Community Correction  
Institutional Release Services  
2801 South Olive Street, Suite 6D  
Pine Bluff, AR 71603

Re: Request for reconsideration of the clemency request for Ledell Lee ADC #000936

Dear Members of the Parole Board:

I am writing to respectfully request that you consider the additional materials attached to this letter, and re-evaluate Mr. Lee's request for clemency. As you will recall, two of the grounds Mr. Lee sought clemency included: (1) his longstanding claim of innocence of the capital crime; and (2) the conflicted and abysmal counsel provided for Mr. Lee denied him a meaningful investigation.

We have critical new information that is highly relevant to both of these points. First, Mr. Lee has now requested DNA testing that if granted, may exonerate him. This is a case with no confession and no physical evidence directly tying Mr. Lee to the crime. The State argued at trial that "Negroid" hair evidence at the scene and small blood drops of Mr. Lee's shoes implicated him in the crime. DNA testing methods available today will allow Mr. Lee test this evidence, and potentially uncover the true perpetrator. At a minimum, this Board should recommend postponing Mr. Lee's execution so that this vital testing of his claim of innocence can be completed, and there can be no doubt about this issue at the time of execution. A copy of Mr. Lee's motion for DNA testing is attached to this letter. Although the Circuit Court today denied the request, Mr. Lee will be appealing that denial to the Arkansas Supreme Court.

Second, adequate counsel would have explored Mr. Lee's claim of intellectual disability and sought an investigation and appropriate mental health experts. We have attached the report of Dr. Dale Watson, a neuropsychologist, who has evaluated Mr. Lee and found significant evidence of brain damage, fetal alcohol syndrome disorder and possible intellectual disability. We have also attached the report of Dr. Elizabeth Vartkessian, an investigator who has gathered important information about Mr. Lee's social history.

The execution date in two days is Mr. Lee's first. He has had no prior clemency review to the hearing last month. The rapid schedule of this execution and events, combined with a long and regrettable history of counsel having abandoned or otherwise ineffectually protected Mr. Lee's rights, make this a case where judicial review has failed to prevent what could be a miscarriage of justice, and one where unfortunately this Board's clemency review of a few weeks ago was not done with the benefit of all of the important evidence now available. Now that more evidence is available, it falls on this body as a last fail-safe to prevent the execution of an innocent man. And it falls on this body and to prevent the execution of a man whose intellectual disability and brain damage would make him constitutionally ineligible for a death sentence, or, at the very least serve as weighty mitigation making life imprisonment without parole the only just and fair sentence.

Sincerely,

*/s/Lee D. Short*  
Lee D. Short

*Enclosure*

**IN THE CIRCUIT COURT OF PULASKI COUNTY, ARKANSAS  
FOURTH DIVISION**

**LEDELL LEE**

**PETITIONER**

**v.**

**CR 93-1249**

**STATE OF ARKANSAS**

**RESPONDENT**

**MOTION FOR POST-CONVICTION DNA TESTING PURSUANT TO  
ARKANSAS CODE ANNOTATED §§ 16-112-201, *ET SEQ* AND  
REQUEST FOR HEARING**

Petitioner Ledell Lee (“Mr. Lee” or “Petitioner”), through undersigned counsel, respectfully petitions this Court for an order directing forensic DNA testing of biological evidence collected during the investigation of the murder of Debra Reese pursuant to Arkansas’s Habeas Corpus – New Scientific Evidence Statute (the “Statute”) (codified at Ark. Code Ann. §§ 16-112-201, *et seq.*), and the Due Process and Cruel and Unusual Punishment Clauses of the Fifth, Eighth and Fourteenth Amendments to the United States Constitution. DNA testing of evidence is required if testing or retesting can provide materially relevant evidence that will significantly advance the defendant’s claim of innocence in light of all the evidence presented to the jury. *Johnson v. State*, 356 Ark. 534, 546, 157 S.W.3d 151, 161 (2004).

**PRELIMINARY STATEMENT**

Mr. Lee has consistently asserted his innocence and denied any involvement in the 1993 murder of Debra Reese. Today, probative biological evidence currently in the custody and control of the State may now be able to provide—through the use of modern, cutting edge DNA testing technologies—confirmation of the veracity of Mr. Lee’s innocence claim. This testing is available at no cost to the State as the Innocence Project has agreed to pay the costs of private testing by a qualified and fully accredited laboratory. *See* AR Code § 16-112-208(A)(2).

Mr. Lee seeks to test residual biological evidence on Converse tennis shoes in the custody of the State seized from the defendant on the day of the crime. The State's expert testified that this biological evidence found on the shoes was blood, but that he was unable to conduct further testing to determine the origin of the blood. At Mr. Lee's trial, the State asked the jury to infer that the positive results of the blood testing supported its contention that Mr. Lee had murdered Ms. Reese. Mr. Lee further seeks to test a hair collected at the crime scene and identified by the state's expert at trial as one "intact Negroid head hair," and hair "fragments" also collected from the scene; the jury was told that the state's expert could not include or exclude the defendant as the source of these hairs. This hair and blood evidence was not previously subjected to DNA testing by the State or by Mr. Lee.

However, today's advanced DNA testing methods can now provide definitive answers to the questions that could not be resolved by the State's experts at trial. Indeed, this previously-unavailable testing could now demonstrate that the blood on the shoes was *not* Ms. Reese's, and that the hairs of African American origin found at the scene were *not* Mr. Lee's. Further, if a sufficient quantity of "root" (tissue) material is present on the hairs, and a DNA profile is obtained that excludes Mr. Lee as the source, the profile can be searched in the national CODIS DNA databank and potentially identify Ms. Reese's actual killer. As discussed *infra*, modern DNA technology has been used in numerous cases to exonerate innocent defendants who were sent to prison or death row on the same kinds of limited serology and hair evidence offered by the State against Mr. Lee, after DNA testing provided more definitive and accurate results.

DNA testing is perfectly suited for cases like this one, where technology unavailable at the time of trial can conclusively establish the legitimacy of a Petitioner's innocence claim and undermine evidence used to convict. As the Supreme Court has recognized, "DNA testing has

an unparalleled ability both to exonerate the wrongly convicted and to identify the guilty . . . [t]he Federal Government and the States have recognized this, and have developed special approaches to ensure that this evidentiary tool can be effectively incorporated into established criminal procedure.” *Dist. Attorney’s Office for Third Judicial Dist. v. Osborne*, 557 U.S. 52, 55, 129 S. Ct. 2308, 2312, 174 L. Ed. 2d 38 (2009).

Accordingly, Mr. Lee respectfully requests that this Court grant his application for post-conviction DNA testing. In support of this motion petitioner submits the Declaration of Ledell Lee (Exhibit 1) and Affidavit of Charlotte J. Word, Ph.D (Exhibit 2).

### **PROCEDURAL HISTORY<sup>1</sup>**

Petitioner was charged with the capital murder of Debra Reese on February 9, 1993.

On October 4, 1994, at a capital trial, the Circuit Court granted a mistrial after the jury could not reach a unanimous verdict on petitioner’s guilt/innocence.

At his second trial on October 12, 1995, petitioner was found guilty of capital murder and was sentenced to death on October 16, 1995.

The Supreme Court of Arkansas affirmed the conviction and sentence on March 24, 1997. *Lee v. State*, 327 Ark. 692, 942 S.W.2d 231 (1997). The only issue raised with respect to the purported blood evidence on the tennis shoes pertained to the destruction of the blood samples.

Petitioner subsequently filed a petition for postconviction relief pursuant to Arkansas Rule of Criminal Procedure 37 in which he alleged that his trial attorneys had rendered ineffective assistance of counsel during the guilt and penalty phases of his trial. The circuit court held two separate hearings on the matter, on January 20 and 21, 1999, and on March 30, 31

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<sup>1</sup> Petitioner hereby incorporates by reference all of the court opinions cited below and asks the court to take judicial of all filings and issues raised within these pleadings.

and April 1, 1999. Following these hearings, the circuit judge denied Lee's petition, and the Arkansas Supreme Court affirmed. *Lee v. State*, 343 Ark. 702, 38 S.W.3d 334 (2001).

Lee then filed a Petition for Writ of Habeas Corpus in federal court. On April 2, 2003, United States District Judge George Howard, sua sponte, noted that Lee's attorney may have been impaired to the point of unavailability on one or more days of the Rule 37 hearing. He ordered the petition stayed and held in abeyance, remanding to the trial court to take appropriate action to allow Lee to present relevant evidence and argument in favor of his Rule 37 petition issues. The Eighth Circuit affirmed the stay. *Lee v. Norris*, 354 F.3d 846 (8<sup>th</sup> Cir. 2004).

On August 30, 2005, Petitioner moved the Arkansas Supreme Court to recall its mandate on grounds that his attorney in the postconviction proceedings rendered ineffective assistance of counsel. Petitioner maintained, and the Supreme Court later found, that his postconviction attorney suffered from a substance-abuse problem and had been intoxicated during the initial Rule 37 proceedings in 1999. As a result, the Arkansas Supreme Court granted Petitioner's motion to recall the mandate and remanded the matter to the circuit judge for further proceedings. *Lee v. State*, 367 Ark. 84, 238 S.W.3d 52 (2006).

On remand, petitioner filed an amended petition for postconviction relief under Arkansas Rule of Criminal Procedure 37. The circuit judge held another hearing on August 28, 2007, and subsequently denied Lee's petition and entered findings of fact and conclusions of law on November 21, 2007. Lee appealed to the Arkansas Supreme Court which affirmed the lower court. *Lee v. State*, 2009 Ark. 255, 308 S.W.3d 596 (2009).

During the above proceedings, on September 18, 2008, the Supreme Court of Arkansas denied a pro se motion of defendant. *Lee v. State*, 2008 Ark. LEXIS 447 (2008), because he was not entitled to accept appointment of counsel and also proceed pro se.

On November 9, 2008, the United States Supreme Court denied *certiorari* to Lee in connection with the Second Rule 37 petition. *Lee v. Arkansas*, 558 U.S. 1013 (2009).

On June 18, 2013, United States District Judge Jimm Larry Hendren denied Lee's Petition for Writ of Habeas Corpus. *Lee v. Hobbs*, 2013 U.S. Dist. LEXIS 85271, 2013 WL 3149755 (E.D. Ark. 2013). On December 18, 2013, Judge Hendren denied Lee's Motion to Vacate, Alter or Amend Judgment Pursuant to Rule 59(e). *Lee v. Hobbs*, 2013 U.S. Dist. LEXIS 177403, 2013 WL 6669843 (E.D. Ark. 2013).

The Eighth Circuit denied relief to Lee and a petition for rehearing en banc was denied. *Lee v. Hobbs*, 2014 U.S. App. LEXIS 22121 (8th Cir. 2014). The United States Supreme Court denied certiorari. *Lee v. Kelley*, 2015 U.S. LEXIS 6544 (Oct. 13, 2015).

Lee is scheduled for execution on April 20, 2017. On April 15, 2017, the Eastern District of Arkansas entered an order staying Mr. Lee's execution, along with several others, because of problems with the execution drug midazolam. *McGehee et al. v. Hutchison, et al.*, No. 4:17-cv-179-KGB (E.D. Ark. April 15, 2017). The State has filed a Notice of Appeal. The Circuit Court of Pulaski also entered a temporary order staying all executions pending a preliminary hearing set on Tuesday, April 18, 2017 regarding another of the execution drugs. *McKesson Medical-Surgical Inc. v. State of Arkansas*, No Civ. 17-1921 (Order April 15, 2017). The State is also seeking review from the Arkansas Supreme Court of the Circuit Court order.

## **STATEMENT OF FACTS**

The exonerating potential of DNA testing in this case must be considered in tandem with the limited circumstantial evidence used to convict Mr. Lee and sentence him to die. Ms. Reese was found murdered in her home in Jacksonville, having been strangled and beaten with a tool belonging to her that resembled a baseball bat. Three eye witnesses identified Mr. Lee as the

man they believed they saw in Ms. Reese's neighborhood on the morning of her murder. One of the three identified Mr. Lee entering Ms. Reese's home, and exiting 20 minutes later looking suspicious because of "rapid-head movements." Ms. Reese called her mother that morning and told her that a man had just knocked on the door, asked if her husband was home, and inquired about borrowing some tools. When Ms. Reese replied that she had no tools, the man left. Ms. Reese told her mother that she was scared and did not trust this guy. Three hundred dollar bills given to her by her father were missing from Ms. Reese's wallet. Later that day, Mr. Lee paid a debt with a one-hundred dollar bill that bore a serial number within two digits of serial numbers on bills that Ms. Reese's father turned over to police. *Lee v. Arkansas*, 327 Ark. 692, 942 S.W.2d 231, 232-33 (1997).

The State introduced no confession and no physical evidence that directly tied Mr. Lee to the murder of Ms. Reese. None of the lifted prints from the crime scene matched the defendant and no DNA evidence was presented to the jury. To strengthen the weak circumstantial evidence, the State introduced evidence of "small spot[s]" of blood found on Mr. Lee's Converse tennis shoes at the time of his arrest. Notwithstanding an extremely bloody crime scene, however, no other blood was discovered on Mr. Lee's clothes. According to the Arkansas Supreme Court,

When Lee was arrested and taken into custody on the day of the murder, among the items police seized from him was a pair of Converse tennis shoes he was wearing. Kermitt Channell, a serologist with the State Crime Lab, examined the shoes and observed what he believed to be a small spot of blood on the sole of the left shoe, and another spot on the tongue of the right shoe. Channell performed what he termed a "Takayama test" on the shoes, which confirmed the presence of blood, but consumed the entire sample, thus removing the opportunity for independent analysis by the defense.

*Id.*, 327 Ark. at 699, 942 S.W.2d at 234. Channel testified at trial that he performed the confirmatory blood test on the shoes in accordance with established laboratory guidelines, but acknowledged that he had not contacted the prosecutor or the defense counsel in advance to



inform them that the sample on the shoes could be consumed. *Id.*, 327 Ark. at 700-01, 942 S.W.2d at 235. Significantly, the Arkansas Supreme Court denied relief because “Lee has made no showing that the blood evidence on the shoes possessed any exculpatory value before it was destroyed.” *Id.*, 327 Ark. at 701, 942 S.W.2d at 235.

Donald E. Smith, a criminalist, testified for the State as an expert witness with respect to hair evidence retrieved from the crime scene. Specifically, he analyzed one “intact Negroid head hair” and several Negroid hair fragments. Tp. 688. He also indicates the intact hair has a root present. Tp. 690. (“And I saw some clearing of the pigments because from the root to the shaft there sometimes gets a clearing of this pigmentation. That’s not apparent if you don’t have roots.”) At the time of the trial in 1995, Mr. Smith said “hair is not a science so precise that you can define a hair as uniquely coming from an individual, saying that no other individual has hair like another person.” Tp. 685. After an examination of these hairs, Mr. Smith concluded that he found nothing that was inconsistent with Petitioner’s hair but that he couldn’t identify them as coming from the defendant. Tp. 690. Now, because of advances in DNA testing, Mr. Lee can refute the hair and blood evidence that served as the lynchpin for his conviction, by proving that the biological evidence on the shoes was not the blood of Debra Reese, and that the hair was not his. In closing the prosecutor emphasized the importance of the identification of some Negroid hair fragments consistent with the defendant’s and in contrast to the Caucasian head hairs of Debra Reese and her husband. Tp. 773. The prosecutor acknowledged the defendant’s clothes had no blood on it three hours after the crime but emphasized two pinpoint of blood found at the same time on the defendant’s tennis shoes Tp. 773, 795. The blood and hair evidence were an essential part of the State’s case identifying the defendant as the perpetrator of the murder.

## ARGUMENT

The Arkansas General Assembly passed Act 1780 to address mounting concerns regarding persons who were jailed, and sometimes executed, for crimes they did not commit. *See* 2001 Ark. Acts 1780 (“[a]n Act to provide methods for preserving DNA and other scientific evidence and to provide a remedy for innocent persons who may be exonerated by this evidence.”); *see also Echols v. State*, 350 Ark. 42, 44, 84 S.W.3d 424, 426-7 (2002); *Johnson v. State*, 356 Ark. 534, 157 S.W.3d 151 (2004). The amendment was passed “to accommodate the advent of new technologies enhancing the ability to analyze scientific evidence” and further the “mission of the criminal justice system [which] is to punish the guilty and exonerate the innocent.” Act 1780, § 1.

Almost twenty-two years after the start of the Petitioner’s trial, the refined capacities of modern DNA testing can now be applied to the blood found on Mr. Lee’s shoes, and potentially prove Petitioner’s innocence. Given Petitioner’s not guilty plea at his earlier trial, his battle to prove his innocence, and the State’s underwhelming case against him, the remedy of DNA testing is particularly compelling.

Under the Act, an Arkansas petitioner may make a motion for forensic DNA testing if:

- (1) The specific evidence to be tested was secured as a result of the conviction of an offense’s being challenged under § 16-112-201;
- (3) The specific evidence was previously subjected to testing and the person making a motion under this section requests testing that uses a new method or technology that is substantially more probative than the prior testing;
- (4) The specific evidence to be tested is in the possession of the state and has been subject to a chain of custody and retained under conditions sufficient to ensure that the evidence has not been substituted, contaminated, tampered with, replaced, or altered in any respect material to the proposed testing;
- (5) The proposed testing is reasonable in scope, utilizes scientifically sound methods, and is consistent with accepted forensic practices;

- (6) The person making a motion under this section identifies a theory of defense that:
  - (A) Is not inconsistent with an affirmative defense presented at the trial of the offense being challenged under § 16-112-201; and
  - (B) Would establish the actual innocence of the person in relation to the offense being challenged under § 16-112-201;
- (7) The identity of the perpetrator was at issue during the investigation or prosecution of the offense being challenged under § 16-112-201;
- (8) The proposed testing of the specific evidence may produce new material evidence that would:
  - (A) Support the theory of defense described in subdivision (6) of this section; and
  - (B) Raise a reasonable probability that the person making a motion under this section did not commit the offense;
- (9) The person making a motion under this section certifies that he or she will provide a deoxyribonucleic acid (DNA) or other sample or a fingerprint for comparison; and
- (10) The motion is made in a timely fashion subject to the following conditions . . .
  - (B) There shall be a rebuttable presumption against timeliness for any motion not made within thirty-six (36) months of the date of conviction. The presumption may be rebutted upon a showing . . . .
    - (iv) That a new method of technology that is substantially more probative than prior testing is available;

As all of these criteria are satisfied here, Petitioner requests that his motion for post-conviction forensic DNA testing be granted.

**I. PETITIONER IS ENTITLED TO DNA TESTING PURSUANT TO ARK. CODE ANN. §§ 16-112-201 *ET SEQ.***

**A. The Physical Evidence in This Case Was Secured as a Result of Petitioner’s Conviction and the Proposed DNA Testing May Produce New Material Evidence That Would Raise a Reasonable Probability That Mr. Lee is Innocent of Capital Murder**

All of the evidence Petitioner seeks to submit to DNA testing was obtained during the police investigation of the murder of Debra Reese. The biological evidence found on Mr. Lee’s shoes and the Negroid hair and hair fragments found at the crime scene—if subjected to the

requested DNA testing procedures detailed below—has the capacity to produce new material evidence that would substantiate Mr. Lee’s prior not guilty plea by proving his actual innocence and demonstrating that Mr. Lee is innocent of this crime.

In accordance with § 16-112-202(6)(B) & (8)(B), the Arkansas Supreme Court has held that DNA testing of evidence is authorized if testing or retesting can provide materially relevant evidence that will significantly advance the defendant’s claim of innocence in light of all the evidence presented to the jury. *Johnson v. State*, 356 Ark. 534, 546, 157 S.W.3d 151, 161 (2004). Such evidence need not completely exonerate the defendant in order to be “materially relevant,” but it must tend to significantly advance his claim of innocence. *King v. State*, 2013 Ark. 133, 4-5 (2013).

Petitioner is also entitled to relief under the United States Supreme Court’s decision in *Schlup v. Delo*, 513 U.S. 298 (1996). In *Schlup*, the Court held that a petitioner can demonstrate actual innocence by producing newly discovered evidence that makes it “more likely than not that no reasonable juror would have found [him] guilty beyond a reasonable doubt.” *Id.* at 327; accord, *House v. Bell*, 547 U.S. 518 (2006). Moreover, because a *Schlup* “claim involves evidence the trial jury did not have before it, the inquiry requires the . . . court to assess how reasonable jurors would react to the overall, newly supplemented record.” *Id.*

As described in more detail *infra*, DNA testing on the tennis shoes collected in this case and the hair evidence could establish Mr. Lee’s innocence.

**B. All of the Physical Evidence in This Case is Currently in the Possession of the State, Has Been Subject to a Chain of Custody and Retained Under Conditions Sufficient to Ensure that the Evidence has not Been Substituted, Contaminated, Tampered With, Replaced, or Altered in Any Respect Material to the Proposed DNA Testing.**

The Converse tennis shoes seized from the defendant on the day of the murder and the hair evidence seized from the crime scene have been presumably held by the State since 1993,

have been subject to a chain of custody, and have been retained under circumstances to prevent contamination. There is no evidence demonstrating or reason to believe that the remaining biological evidence has been in any way compromised.

**C. The Petitioner’s Proposed Testing of the Physical Evidence is Scientifically Sound, Consistent With Accepted Forensic Practices, Reasonable in Scope, and Includes New Forms of DNA Testing That Are Substantially More Probative Than Prior Testing Technologies, Thus Rebutting the Presumption Against Timeliness.**

As will be discussed *infra*, new forms of forensic DNA testing that did not exist and were entirely unavailable at the time of Petitioner’s first and second trials, and others that are substantially more probative than the DNA methods available at Mr. Lee’s 1995 trial can now be deployed to analyze the collected biological evidence.

1. *The proposed DNA testing is scientifically sound and consistent with accepted forensic practices and the technology to be used is substantially more probative than the technologies used at Mr. Lee’s trial.*

Forensic DNA testing methodologies have not been considered “novel science” in Arkansas since 1996 and have been admissible evidence since 1991. *Moore v. State*, 323 Ark. 529, 915 S.W.2d 284 (1996); *Engram v. State*, 341 Ark. 196, 15 S.W.3d 678 (2000); *Whitfield v. State*, 346 Ark. 43, 45, 56 S.W.3d 357, 358 (2001) (citing *Prater v. State*, 307 Ark. 180, 820 S.W.2d 429 (1991)). Indeed, today’s forensic DNA testing methodologies are inarguably more sensitive, discriminating, and accurate than almost any other form of evidentiary proof. *See Maryland v. King*, 133 U.S. 1958, 1964 (2013) (“The only difference between DNA analysis and fingerprint databases is the unparalleled accuracy DNA provides.”).<sup>2</sup>

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<sup>2</sup> The RFLP form of DNA testing used at the time of the Petitioner’s trial had extremely limited capabilities and is now obsolete within the forensic DNA context. “[T]he ability of laboratories to perform DNA typing methods has improved dramatically . . . due to rapid progress in the areas of biology, technology, and understanding of genetic theories. In addition, the power of discrimination for DNA tests has steadily increased in the late 1990s.” John M. Butler, *Forensic DNA Typing* 11-12 (2d Ed. 2005); see also Exh. 2at ¶ 7 (Word aff).

At the time of Mr. Lee’s trial in 1995, today’s advanced methods of STR DNA analysis were unavailable. Exh.2 at ¶ 3, 8-11(Word aff). Short Tandem Repeat (“STR”) “increas[ed] exponentially the reliability of forensic identification over earlier techniques” and is “qualitatively different from all that preceded it.” *Harvey v. Horan*, 285 F.3d 298, 305, n.1 (4th Cir. 2002). STR testing fully replaced other DNA testing methods in the FBI crime laboratory and most other crime laboratories by 2000.<sup>3</sup> Today, autosomal (non-sex determining) STR technology is the principal mechanism for obtaining DNA profiles in forensic laboratories around the nation, and is essentially the gold standard of modern DNA testing.<sup>4</sup> For a decade, the forensic science community used a minimum of thirteen genetic markers, referred to as the thirteen core CODIS (Combined DNA Index System) loci, when conducting forensic DNA testing.<sup>5</sup>

Since Mr. Lee’s trial, there have been major advances in DNA testing capabilities. While Mr. Channell testified that his analysis of the pinpoints of blood consumed the evidence, STR DNA tests require smaller amounts of material than conventional serology analysis. In fact the Affidavit of Dr. Charlotte Wood indicates that DNA tests may be done on profiles from 20 cells or less and that using today’s technology, the Converse shoes can be examined for minute

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<sup>3</sup> Butler, supra, 11-12.

<sup>4</sup> Butler, supra, 11-12.

<sup>5</sup> The Combined DNA Index System, or CODIS, is the FBI’s nationwide DNA database. The database contains DNA profiles collected by federal and state forensic laboratories. As of August 2013, CODIS contained approximately 10,535,300 offender profiles and 509,900 forensic profiles from crime scenes and produced over 219,700 profile “hits” assisting in more than 210,700 investigations. See Federal Bureau of Investigation, National DNA Index System Statistics, <http://www.fbi.gov/about-us/lab/codis/ndis-statistics>. Arkansas has its own CODIS compatible DNA database which has over 75,000 convicted offenders in the system and over 82,000 total profiles. This constitutes an average of 15 hits a month in Arkansas due to CODIS. See Arkansas State Crime Lab, CODIS, <http://www.crimelab.arkansas.gov/sectionInfo/Pages/codis.aspx>.

deposits of blood for DNA testing. This testing could not have been performed prior to Mr. Lee's trial.

2. *The hair analysis performed by the criminalist in 1995 was flawed and the availability of mitochondrial DNA testing can prove the hairs found at the scene of the crime do not belong to Mr. Lee.*

At the time of the petitioner's trial, the microscopic hair comparison done by Mr. Smith and presented to the jury was a commonly-used but unvalidated forensic technique – one that has since been entirely replaced by mitochondrial DNA analysis as a method of forensic identification. Under the microscope analysis method, an analyst would place two hairs (a crime scene hair and a known hair) side-by-side under a microscope and visually compare them to determine whether there was a positive association. However, in 2009, after Congress assigned the National Academy of Sciences (“NAS”) the task of evaluating the scientific validity and reliability of various forensic techniques, including hair microscopy, the NAS published a seminal report that revealed fundamental flaws in many forensic disciplines and the dangers of testimony regarding such “science.” Nat’l Academy of Sciences, Nat’l Research Council, *Strengthening Forensic Science in the United States: A Path Forward* (2009). The NAS found that hair microscopy cannot uniquely identify one person as the source of a hair, concluding that evidence of a match “must be confirmed using [mitochondrial] DNA analysis.” *Id.* at 161.

Mitochondrial DNA testing (“mtDNA”) analyzes DNA found in the cytoplasm of the cell; that is, the area that surrounds the nucleus. The mitochondrial genome, which is unchanged as it is passed from mother to child, is passed on to all the offspring of a mother and to those children's offspring. Mitochondrial DNA testing thus provides one particular advantage over STR testing; it can be compared to forensic samples that do not have the nucleated chromosomal information required for STR, and thus may be used on biology without nucleated cells,

including hair with no “root,” and bones. Mitochondrial DNA can exclude an individual as the source of the hair. Mitochondrial DNA testing was not available to either the State or Mr. Lee in 1995. *See* Exh. 2, Word aff. at ¶8. In 2012, three men who were convicted based on false hair comparison testimony by three different FBI hair examiners were exonerated when post-conviction mitochondrial DNA testing discredited the evidence proffered against them at trial.<sup>6</sup> The NAS Report and the DNA exonerations compelled the Department of Justice and the FBI to re-examine thousands of criminal cases between 1985 and 2000 where its hair examiners conducted microscopic hair analysis and testified to a positive association between a defendant’s hair and a hair collected from a crime scene. In April, 2015, as a result of this historic review, the FBI formally acknowledged that nearly every examiner in its microscopic hair comparison unit gave flawed and exaggerated testimony in more than 95% of the trials reviewed.<sup>7</sup> The FBI conceded for the first time that its agents lacked any scientific basis when they testified that an individual was likely the source of a crime scene hair and that hair microscopy is limited “in that the size of the pool of people who could be included as a possible source of a specific hair is unknown.”<sup>8</sup> It is therefore impossible to say that strands of hair came from a particular

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<sup>6</sup> Spencer S. Hsu, *Kirk Odom, Who Served 20 Years for 1981 D.C. Rape, is Innocent, Prosecutors Say*, Wash. Post, July 10, 2012; Spencer S. Hsu, *Santae Tribble Cleared in 1978 Murder Based on DNA Hair Test*, Wash. Post, Dec. 14, 2012.

<sup>7</sup> Spencer Hsu, *FBI Admits Flaws in Hair Analysis Over Decades*, Wash. Post, Apr. 19, 2015.

<sup>8</sup> *See* Norman L. Reimer, *The Hair Microscopy Review Project*, The Champion, July 2013, at 16; Spencer S. Hsu, *Justice Dept., FBI to Review Use of Forensic Evidence in Thousands of Cases*, Wash. Post, July 10, 2012; Spencer S. Hsu, *U.S. Reviewing 27 Death Penalty Convictions for FBI Forensic Testimony Errors*, Wash. Post, July 17, 2013; Innocence Project, *Innocence Project and NACDL Announce Historic Partnership with the FBI and Department of Justice on Microscopic Hair Analysis Cases* (July 18, 2013), available at <http://www.innocenceproject.org/news-events-exonerations/press-releases/innocence-project-and-nacdl-announce-historic-partnership-with-the-fbi-and-department-of-justice-on-microscopic-hair-analysis-cases>.



person.<sup>9</sup> In fact, of the 340 convictions overturned by post-conviction DNA testing in this nation, at least 74 – about one in four – involved flawed microscopic hair analysis, where a hair from the crime scene was deemed to be “similar to” or “consistent with” the defendant’s or the victim’s hair standard.<sup>10</sup>

3. *The requested STR DNA testing of the blood evidence and mtDNA testing of the hair evidence is reasonable in scope.*

STR testing can generate a profile that is effectively unique; Since 1995, the capacities of DNA forensic science have radically improved; new forms of testing, like mitochondrial DNA have been discovered, and STR technologies now have several sub-categories of highly refined testing methods that are the appropriate forms of testing to be used on the types of evidence available for testing here. Further facts regarding recent developments in DNA analysis that were unavailable at Mr. Lee’s trial and in earlier post-conviction proceedings can be established at a hearing on this petition, if necessary.

The proposed testing is reasonable in scope and necessary to fully prove Mr. Lee’s actual innocence claim. Accordingly, the presumption against timeliness is rebutted. See A.C.A. § 16-112-202(10)(B)(iv); *Carter v. State*, 2015 Ark. 57, \*7.

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<sup>9</sup> Spencer S. Hsu, *Convicted defendants left uninformed of forensic flaws found by Justice Dept.*, Wash. Post, Apr. 16, 2012 (“researchers [have long] acknowledged that visual [hair] comparisons are so subjective that different analysts can reach different conclusions about the same hair”).

<sup>10</sup> *See Innocence Project and NACDL Announce Historic Partnership with the FBI and Department of Justice on Microscopic Hair Analysis Cases* (July 18, 2013).

**D. The Petitioner's Identity Was at Issue During the Investigation and Prosecution of Debra Reese's Murder.**

The identity of the perpetrator of Ms. Reese's murder has always been at issue as the Petitioner has maintained his actual innocence of the crime since the time of his arrest, has consistently pled not guilty, and has strenuously litigated his innocence claim. Indeed, at trial, Petitioner's counsel emphasized the limited probative value of the forensic testing done by the State, and argued that it was insufficient for the jury to find that the blood was the victim's and that the hairs belonged to the defendant. On appeal, he continued to argue that the blood evidence could have been exculpatory had the State preserved it in sufficient quantities for further testing (which is now possible due to advances in technology). Because Petitioner has never conceded these critical points – and, indeed, has challenged the State's evidence and maintained his innocence since trial – this provision of the statute is satisfied.

**E. Petitioner Can Identify a Theory of Defense That is Not Inconsistent With His Defense at Trial and May be Able to Produce New Material Evidence Establishing His Actual Innocence.**

In light of his two decades old innocence claim, Petitioner can readily identify a theory of defense consistent with the “not guilty” plea presented at trial that could establish his actual innocence. He consistently maintained at trial and since that time that he was not perpetrator of this crime, and the DNA testing requested would disprove critical State evidence tending to show that he was the perpetrator. With respect to the current testing, the potential materiality of exculpatory DNA results is apparent, because the testing can: (1) show that the blood on Petitioner's shoes was not Mr. Lee's; (2) show that the “Negroid” hairs found at the crime scene came from someone other than Mr. Lee, and (3) if an STR-DNA profile is obtained from the root of the “intact” hair (as the State's expert said was present when he examined the root), and Mr. Lee is not the source, that STR-DNA profile can be searched in the CODIS DNA database, and

potentially identify Ms. Lee's actual killer.<sup>11</sup>

There are also important public safety interests to be served by the testing Petitioner now seeks. If Mr. Lee is actually innocent of Ms. Reese's murder, then the real perpetrator of this brutal crime has not yet been brought to justice. That individual may still be at large, or incarcerated but pending release, and thus putting other members of the public at risk of future violence. The potential for post-conviction DNA testing to identify the real perpetrator of a serious crime is not speculative: in fully 29% of the post-conviction DNA exonerations documented over a twenty-five year period (1986-2014), the same DNA testing that exculpated a wrongly convicted defendant was used to directly identify a known alternate suspect in the crime(s). *See West & Meterko, DNA Exonerations 1989-2014: Review of Data and Findings from the First Twenty-Five Years*, 79 Alb. Law Rev. 717, 730-31 (2015-16). Tragically, many of these individuals had committed still more violent crimes while the innocent defendants were wrongly incarcerated: sixty-eight of these perpetrators went on to commit at least 142 additional violent crimes – including 34 homicides and 77 rapes. *See id.* at 731.

### **REQUEST FOR HEARING**

Mr. Lee respectfully requests that the Court schedule a hearing so that the Court can carefully consider expert and other evidence supporting this Motion for DNA testing. Pursuant to A.C.A. § 16-112-205(a), a hearing is required “unless the petition and the files and records of the proceeding conclusively show that the petitioner is entitled to no relief.” This is Mr. Lee's

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<sup>11</sup> The FBI's CODIS database is a vast, computerized network of STR-DNA profiles from convicted offenders, arrestees, and crime scenes from around the country that can be immediately compared to unknown profiles in pending investigations. As of February 2017, the database contained over 12.7 million convicted offender profiles, and 2.6 million arrestee profiles – including more than 200,000 profiles for offenders and arrestees submitted by the State of Arkansas. *See CODIS-NDIS Statistics*, Federal Bureau of Investigation, available at <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/ndis-statistics> (last visited April 14, 2017).

first petition requesting relief because of the availability of new scientific testing and evidence. In *Carter v. State*, the Arkansas Supreme Court held that an evidentiary hearing is necessary where a person seeking post-conviction DNA testing alleges facts that entitle them to relief. See *Carter v. State*, 2015 Ark. 57 (2015). Just as in *Carter*, Mr. Lee has alleged facts which establish his right to relief. Accordingly, this Court should schedule a hearing at which Mr. Lee may present evidence to prove all of the facts alleged in this Motion.

### CONCLUSION

For all the aforementioned reasons, Petitioner's request that forensic DNA testing be performed on the biological evidence on the Converse tennis shoes in this case—with all costs to be paid for by the Innocence Project—should be granted.

**WHEREFORE**, The Petitioner states the following requests for relief:

1. An Order granting a hearing at which Mr. Lee, through undersigned counsel, may fully present the evidence supporting this motion;
2. An Order releasing the already collected evidence to an accredited, private DNA laboratory;
3. An Order compelling the State of Arkansas to properly preserve any additionally discovered physical evidence until further order from this Court and, if such evidence were to be discovered, to allow for an amended testing order to include additional DNA testing of any probative evidence;
4. An Order compelling the State of Arkansas, the Jacksonville Police Department, and the Arkansas State Police to disclose and turn over all evidence accrued from any prior DNA testing or investigation in the Petitioner's case and all relevant documents, including and not limited to police reports, lab reports, photographs, trial exhibits, bench notes, *etc.* regarding the

Petitioner's case;

5. An Order staying Mr. Lee's execution before consideration of this Motion and completion of the requested DNA testing;

6. Any other Order that the Court deems necessary to adequately protect the Petitioner's state and federal constitutional rights.

Respectfully submitted,

/s/Lee D. Short  
LEE D. SHORT  
SHORT LAW FIRM  
425 W. Broadway, Suite A  
North Little Rock, AR 72114  
LeeDShort@gmail.com  
Bar # 2010-136  
(501) 766-2207

**CERTIFICATE OF SERVICE**

I hereby certify that the foregoing document was electronically delivered to the following:

Larry Jegley  
Prosecuting Attorney

Leslie Rutledge  
Attorney General

/s/Lee D. Short  
LEE D. SHORT


Declaration of Ledell Lee

1. My name is Ledell Lee.
2. I was convicted in 1995 of the capital murder of Debra Reese. I have always maintained my innocence in this case.
3. I had an alibi and the facts of the murder as alleged by the State against me were untrue.
4. The jury was hung at my first trial, and I was not convicted until the State's second attempt.
5. The State used forensic evidence against me in my second trial. They tested spots on the tongue and sole of my tennis shoes to determine the presence of blood, and the State expert testified that the spots were blood. The State argued to the jury that the blood was the victim's.
6. I sought testing to prove that the blood was not the victim's. This would have been powerful evidence of my innocence. At trial, the State's expert testified that he used all of the blood from the shoes in his confirmatory blood test and that there would not be enough remaining evidence for testing to determine whose blood it was.
7. Today, a modern DNA method, STR-DNA testing, is available to test the traces of the original stain. These tests will show that the blood did not belong to the victim and will exonerate me.
8. The scientific evidence from STR-DNA testing was not available at the time of trial and establishes my actual innocence.
9. An attorney talked with me, talked with DNA experts, and then wrote this statement. I agree with all of the facts.

I swear that the foregoing is true and correct to the best of my knowledge under penalty of perjury under the laws of the United States.

4-19-17

Date

  
Ledell Lee

## **AFFIDAVIT OF CHARLOTTE J. WORD, Ph.D.**

Charlotte J. Word, being duly sworn according to law, upon her oath deposes and says:

1. I, Charlotte Word, am a consultant in forensic DNA testing. I am a former Laboratory Director at Cellmark Diagnostics (which became Orchid Cellmark) in Germantown, MD. I was employed at Cellmark from April 1990 to April 2005.
2. Cellmark Diagnostics in Germantown, MD was a private laboratory that conducted human DNA identification testing and was accredited in 1994 by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board. For many years the Laboratory was also accredited by the American Association of Blood Banks for parentage testing. As a private laboratory in business for over 17 years, Cellmark offered DNA testing services to a wide variety of clients including but not limited to, crime laboratories, prosecutors, defense attorneys, law enforcement, the military, and state and local agencies from around the country.
3. I received a Bachelor of Science degree in Biology from The College of William and Mary in Virginia, and a Ph.D. in Microbiology from The University of Virginia. I did a postdoctoral fellowship at the University of Texas Southwestern Medical School in Dallas, TX conducting research in the areas of molecular biology and immunology. I was on the faculty at the University of New Mexico, School of Medicine, where I did research and taught in the areas of molecular biology and immunology from 1984 to 1990. I have over 37 years of molecular biology experience and over 27 years of experience applying molecular genetics techniques to forensic testing including experience with the majority of the scientific tests used in the United States since 1990 for forensic human DNA identification testing. This includes the extensive use of restriction fragment length polymorphism (RFLP) and polymerase chain reaction (PCR) testing. I have experience in the application of the various, and now outdated, test

procedures used in forensic casework including DQ $\alpha$ /DQA1, PM (also referred to as “Polymarker”), D1S80 and short tandem repeat (STR) testing using the “CTT” and “CTT-A” GenePrint systems from Promega Corporation, as well as with the various test systems using fluorescently-labeled STRs, commonly used since the late 1990’s.

4. In 1998 and 1999 I was a member of the Post-Conviction Issues Working Group of Attorney General Janet Reno’s National Commission on the Future of DNA Evidence and co-author of “Postconviction DNA Testing: Recommendations for Handling Requests” 1999, U.S. Department of Justice Office of Justice Programs. I am on the Editorial Board of the Journal of Forensic Sciences, which is the premiere forensic journal in the United States, where I serve as a peer reviewer and advisor to the editor. I am also a guest reviewer for the journal *Forensic Science International: Genetics*. I am currently a member of the Biological Data Interpretation and Reporting Subcommittee of the Biology/DNA Scientific Area Committee of the Organization of Scientific Area Committees (OSAC) and a member of the DNA Consensus Board of the American Academy of Forensic Sciences (AAFS) Academy Standards Board. I was a member of the Reporting and Testimony Subcommittee of the National Commission on Forensic Science that just ended this week.
5. My curriculum vitae is attached as Exhibit A.
6. I have been requested by counsel for Ledell Lee to provide my opinions regarding the possibility of performing DNA testing on evidence in the case of *State of Arkansas v. Ledell Lee*. It is my understanding, based on information received from counsel and my review of the 1995 trial testimony of Kermit Channell, a forensic serologist with the Arkansas State Crime Laboratory, that a pair of Converse tennis shoes worn by Mr. Lee when he was arrested in 1993 was tested by Mr. Channell at the State Crime Laboratory, and that human blood was identified from two spots observed on the shoes.



The testimony from the trial indicates that the entire sample from at least one of the shoes was consumed so additional tests could not be performed.<sup>1</sup>

7. At the time of Mr. Lee's arrest in 1993, two forms of DNA testing were available in the United States, and had been available since the late 1980s. Restriction fragment length polymorphism ("RFLP") testing required a large biological sample (e.g., dime to quarter-sized blood stain) to generate interpretable results, and likely would not have been a reasonable test to perform in this case due to the sample-size requirements. Polymerase chain reaction ("PCR") testing using the DQ $\alpha$  AmpliType Amplification and Typing Kit was being used in a number of laboratories in the United States, including the FBI laboratory and several private laboratories. This test required a much smaller sample than RFLP testing. However, since it only provided DNA test results at one locus, the data were often not very discriminating. Based on Mr. Channell's testimony at trial, it is unlikely that useful test results would have been obtained from the two shoes in 1993-95 due to the very small sample size.
8. Since 1993, there have been significant improvements in forensic analysis of biological samples beyond what was available for blood typing and early DNA testing; this is especially true with the major advances in DNA testing capabilities. Three of the key advances in the field provide substantially more and more useful DNA data than what may have been obtained in the early 1990s. First, the current DNA tests permit the analysis of very small quantities of biological material, including human blood, allowing for the testing of far smaller amounts of material than could be performed using conventional serology (blood grouping) analysis. Second, these tests have exponentially greater "discrimination" power – the ability to distinguish among individuals in the population, and determine whether or not a specific individual can or cannot be the

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<sup>1</sup> The trial transcript of Mr. Channell indicates that each of the two stains tested were from the tongue of the right shoe and left shoe. It is my understanding from counsel that the 1997 appellate decision indicates that the spot tested on the left shoe was from the sole of the shoe.

donor of the material. With today's tests, it is possible to obtain statistical frequencies for a match between a DNA profile from a blood stain and a known individual that far exceed the population of the world, leaving little doubt as to the source of the biological sample. Conversely, today's DNA tests can determine that an individual is absolutely not the source of the material tested (i.e., exclude the individual as the source). Third, is the introduction of mitochondrial DNA (mtDNA) testing using DNA sequencing technologies in a few laboratories in the United States, including at the FBI laboratory. This test, which was not available at the time of Mr. Lee's trial, is most commonly used on hair shafts and on biological samples that have been environmentally-stressed such that the DNA is so highly degraded (i.e., broken down into very small pieces) that it is unable to generate test results with conventional DNA tests.

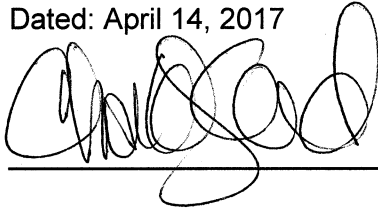
9. Today in the United States, the PCR-based DNA test kits routinely used in all forensic laboratories test for at least 20 STR (Short Tandem Repeat) loci in addition to other markers that confirm the gender of the donor of the DNA in the biological sample. These tests require very small samples, and have been shown to generate interpretable profiles from 20 cells or less, especially if the DNA is from a single contributor. These new test kits, which have only been available in forensic laboratories over the past few months to a year, are also resistant to inhibition by factors inherent in some samples allowing for testing of samples that may not have generated DNA test results with the earlier PCR-based STR tests. In addition, these new kits were developed specifically to generate results from older samples that may have undergone some limited degradation of the DNA over time.
10. If there is any small amount of the original blood stains on the shoes or on the swab (or other material) used during the test for blood in the crime laboratory, it is very possible that DNA test results can be generated using today's technology with kits having significantly improved sensitivity. It is also possible that additional small stains that were

not noted previously, and which may be suitable for testing, could be identified on the shoes upon re-examination. For example, minute deposits of blood may remain on the shoe which were not noted or tested by Mr. Channell -- perhaps because such quantities were insufficient for serology testing and thus not deemed significant at that time -- but which could yield the blood donor's DNA profile using today's methods. It is not uncommon for additional biological stains to be discovered upon re-examination of evidence samples years later and to produce significant scientific data. Any DNA test results obtained from a stain on the shoes may be compared to the DNA profile from Mr. Lee and from Ms. Debra Reese to determine if either are included or excluded as the source of the DNA.

11. Similarly, any other biological evidence deposited by an individual or transferred to the victim from the perpetrator, and vice versa, present on other items recovered from the crime scene, victim or the defendant may also be suited for testing with today's various STR DNA typing and/or mtDNA sequencing technologies. For example, a mtDNA sequence can often be generated from the shaft of a hair that is approximately an inch in length or longer and can exclude an individual as the source of the hair. Alternatively, if there is a root on the hair, conventional PCR STR DNA testing procedures may be used to generate a profile suitable for comparison to DNA profiles obtained from Ms. Reese and Mr. Lee and for entry into the FBI's CODIS database.

I swear, under penalty of perjury, that the foregoing is true and correct to the best of my knowledge, under the laws of the United States.

Dated: April 14, 2017



Charlotte J. Word, Ph.D.

SUBSCRIBED AND SWORN to before me this 14<sup>th</sup> day of April, 2017.

Sworn and subscribed before me, in my presence  
This 14 day of APR 2017, a Virginia Notary  
Public, in and for Chesterfield County.

M. Olszewski  
Notary Public  
My Commission Expires 05/31/2020



# Exhibit A

## Curriculum Vitae

Charlotte J. Word, Ph.D.

### Education

Ph.D. Microbiology, University of Virginia, Charlottesville, Virginia, 1981

B.S. Biology, College of William and Mary, Williamsburg, Virginia, 1976

### Professional Experience

Consultant, Human DNA Identification and Paternity Testing, 2005 - present

Consultant, Boston University School of Medicine, NIH Training Grant awarded to Dr. Robin Cotton, 2008 – 2015.

Consultant, Orchid Cellmark, Germantown, MD; Dallas, TX, 2005 - 2012

Consultant, Applied Biosystems, Inc. 2006 - 2012

Project Staff Associate, Northeast Regional Forensic Institute, Research Foundation of State University of New York, Albany, New York, 2006 - 2007

Senior Manager, Forensics and Laboratory Director, Orchid Cellmark, Germantown, Maryland, 2001 - 2005

Deputy Laboratory Director, Forensic Laboratory, Cellmark Diagnostics, Inc., Germantown, Maryland, 1997 - 2001

Senior Scientist, Cellmark Diagnostics, Inc., Germantown, Maryland, 1995 - 1997

Scientist, Cellmark Diagnostics, Inc., Germantown, Maryland, 1990 - 1995

Research Assistant Professor, Department of Cell Biology, University of New Mexico School of Medicine, Albuquerque, New Mexico, 1984 -1990

Research Fellow, Dr. Philip W. Tucker, Department of Microbiology  
University of Texas Southwestern Medical School, Dallas, Texas, 1981 - 1984

Graduate Research Student (Ph.D.), Dr. W. Michael Kuehl, Department of Microbiology,

University of Virginia. Thesis Title: "Murine B Lymphomas: Models for Immunoglobulin Expression in B Cell Development.", 1976 - 1981

Sabbatical with Dr. Randolph Wall, University of California at Los Angeles Molecular Biology Institute, Los Angeles, California, 1980

Participant, Histopathobiology of Cancer Workshop, Keystone, Colorado, 1979

#### Professional Associations and Licensures

American Society of Human Genetics

American Academy of Forensic Sciences

Mid-Atlantic Association of Forensic Scientists

Mid-Atlantic Cold Case Homicide Investigators Association (MACCHIA)

CE Users Group

Maryland Department of Health and Mental Hygiene, Office of Health Care Quality, Forensic Letter of Permit Exception

#### Honors and Research Support

Member, Subcommittee on Biology/DNA Analysis 2 (Biology Data Interpretation and Reporting) of the Biology/DNA Scientific Area Committee of the Organization of Scientific Area Committees (OSAC), 2014–present

Member, American Academy of Forensic Sciences, Academy Standards Board, DNA Consensus Board, 2016-present

Member, Reporting and Testimony Subcommittee of the National Commission on Forensic Science, 2014–2017

District of Columbia Department of Forensic Sciences Science Advisory Board, 2014–2015

Grant Review for National Institutes of Justice, 2006–present

Auditor for the National Forensic Science Technology Center, 2005–2011

Inspector for the American Society of Laboratory Directors/Laboratory Accreditation Board 2004 – 2005, 2010.

Editorial Board, *The Journal of Forensic Sciences*, 2004 – present

Guest Reviewer, *The Journal of Forensic Sciences*, 2002 – 2004

Guest Reviewer, *Forensic Science International: Genetics*, 2012-present

Member, Post-Conviction Issues Working Group of the National Commission on the Future of DNA Evidence, 1998-1999. Co-author of “Postconviction DNA Testing: Recommendations for Handling Requests” 1999, U.S. Department of Justice Office of Justice Programs.

United States Department of Defense, 1996-1998, Enhanced DNA Recovery, \$318,000.

NIH 1 RO1 HD20409. Immunoregulatory Factors in Human Colostrum. \$88,218 (direct). 07/01/87 – 06/30/90. Co-PI: S. Crago.

American Heart Association Grant-In-Aid 1985-1989, Regulation of B Cell Immunoglobulin Isotype by T Cells, \$99,000.

American Cancer Society Junior Faculty Research Award 1985-1988, Regulation of B Cell Immunoglobulin Isotype by T Cells, \$90,500.

Recipient of AAI travel award for 6<sup>th</sup> International Congress of Immunology, 1986.

Fellow, Damon Runyon –Walter Winchell Cancer Fund Award, 1982-1984.

Semi-Finalist, 1981 Distinguished Dissertation Award from the Council of Graduate Schools/University Microfilms International.

## Publications

Word, C.J. and Kuehl, W.M. 1981. Expression of surface and secreted IgG<sub>2a</sub> by a murine B lymphoma before and after hybridization to myeloma cells. *Mol. Immunol.* 18:311-322.

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cell differentiation factor(s) for IgG (BCDF $\gamma$ ) on  $\gamma$ -specific mRNA in murine B cells. *J. Immunol.* 131:3049-3051.

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Crago, S.S., Word, C.J. and Tomasi, T.B. 1987. Interaction of antisera to the secretory component with Fc $\alpha$ R. *In: Recent Advances in Mucosal Immunology, Part A.* Eds. J. Mestecky, J.R. McGhee, J. Bienenstock, P. and L. Ogra. Plenum Publishing, NY, pp. 601-611.

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#### Presentations/Abstracts/Workshops

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Word, C.J., Mushinski, J.F. and Tucker, P.W. 1983. The murine immunoglobulin  $\alpha$  gene expresses multiple transcripts from a unique membrane exon. 12<sup>th</sup> Annual UCLA Symposium, Journal of Cellular Biochemistry.

Word, C.J., Mushinski, J.F., and Tucker, P.W. 1983. The murine immunoglobulin  $\alpha$  gene expresses multiple transcripts from a unique membrane exon. 5<sup>th</sup> International Congress of Immunology.

Crago, S.S., Word, C.J., and Tomasi, T.B. 1986. Interaction of antisera to the secretory component with Fc $\alpha$ R. International Congress of Mucosal Immunology.

Chen, Y.-W., Word, C., Jones, S., Uhr, J.W., Tucker, P.W., and Vitetta, E.S. 1986. Biochemical and molecular characterization of an IgM/IgG<sub>1</sub>-producing variant. 6<sup>th</sup> International Congress of Immunology.

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Crago, S.S., Word, C.J., and Tomasi, T.B. 1986. Interaction of antisera to the secretory component with the IgA receptor (Fc $\alpha$ R) on murine lymphoid cells. 6<sup>th</sup> International Congress of Immunology.

Word, C.J., White, M.B., Shen, A.L., Kuziel, W.A., Blattner, F.R. and Tucker, P.W. 1986. DNA sequence and analysis of the human Ig C $\mu$ -C $\delta$  locus. Rocky Mountain Immunology Meeting.

Crago, S.S., Word, C.J., Tomasi, T.B. 1986. Interaction of antisera to the secretory component with the IgA receptor (Fc $\alpha$ R) on murine lymphoid cells. Rocky Mountain Immunology Meeting.

Crago, S., Word, C. and Tomasi, T.B. 1986. Anti-secretory component inhibits binding of IgA to Fc $\alpha$ R. 71<sup>st</sup> Annual Meeting Federation of American Societies for Experimental Biology.

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Word, C.J. - Presenter. 1990. Criminal Law and DNA, The Institute of Continuing Legal Education in Georgia. Atlanta, GA.

Word, C.J. - Presenter. 1990. California Association of Criminalist meeting, Long Beach, CA.

Kriss, J.E., Forman, L., Word, C.J., Garner, D.D. and Cotton, R.W. 1991. Factors affecting migration and resolution of DNA fragments. 43<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Anaheim, CA.

Forman, L., Wadhams, M.J., Roby, R.K., Stacy, T.D., Word, C.J., Garner, D.D. and Cotton, R.W. 1991. Comparison of allele frequency distributions in four populations using probe YNH24. 43<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Anaheim, CA.

Cotton, R.W., Kriss, J.E., Forman, L., Word, C.J. 1992. The effects of sample buffer composition on migration of DNA fragments. 44<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, New Orleans, LA.

Forman, L., Roby, R.K., Wadhams, M.J., Stacy, T.D., Word, C.J., Garner, D.D. and Cotton, R.W. 1992. Effects on the calculation of frequencies from statistically-differentiated databases for multiple VNTR loci. 44<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, New Orleans, LA.

Word, C.J., Cotton, R.W., Cooper, J.A., McCoy, M.J., Roby, R.K., Stacy, T.D., Walsh, D.J., Wadhams, M.J., Weber, M.A., Yates, P.J. and Forman, L. 1992. Use of single-locus and multilocus DNA probes in forensic paternity cases involving incestual relationships.

44<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, New Orleans, LA.

Cotton, R.W., Forman, L. and Word, C.J. 1992. Minisatellite variant repeats (MVR's): Another layer of polymorphism in repeated DNA sequences. Third International Symposium on Human Identification, Scottsdale, AZ.

Cotton, R.W., Forman, L., Word, C.J. and Sozer, A.C. 1993. Minisatellite variant repeats and forensic analysis. 45<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Boston, MA.

Weber, M.A., Cotton, R.W., Forman, L., Garner, D.D. and Word, C.J. 1993. RFLP analysis of apparent partially restricted DNA samples from forensic casework. 45<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Boston, MA. and Northeast Association of Forensic Sciences 19<sup>th</sup> Annual Meeting, Springfield, MA.

Kriss, J., Corey, A.C., Cooper, J.A., Yates, P.J., Weber, M.A., Cotton, R.W., Garner, D.D. and Word, C.J. 1993. Validation Studies Using the HLA DQ $\alpha$  Forensic Kit. 45<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Boston, MA and the Northeast Association of Forensic Sciences 19<sup>th</sup> Annual Meeting, Springfield, MA.

Word, C.J., 1993. Case application and court experiences with PCR. Florida DNA Training Session II: PCR Applications. Orlando, FL.

Cotton, R.W., Kriss, J., Wadhams, M.J. and Word, C.J. 1993. Quantitation of human DNA. Fourth International Symposium on Human Identification, Scottsdale, AZ.

Word, C.J., Presenter - AmpliType Users Forum. 1994. 46<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, San Antonio, TX.

Forman, L., Ballmann, R., Campbell, W., Cooper, J.A., Danielsen, L.A., Quandt, K.R., Ranadive, A., Stolorow, M.D., Weber, M.A., Word, C.J., and Yates, P.J. Proficiency testing and DNA profiling. 1994. 46<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, San Antonio, TX.

Word, C.J., and Bing, D. 1994. Validation studies on the AmpliType<sup>®</sup> PM PCR Amplification and Typing Kit for forensic testing: Summary of results from 15 Laboratories. Fifth International Symposium on Human Identification, Scottsdale, AZ.

Cotton, R.W., Wadhams, M.J., Kriss, J., Sipes, D., Forman, L. and Word, C.J. 1994. Validation of two STR loci in preparation for casework implementation. Fifth International Symposium on Human Identification, Scottsdale, AZ.

Kriss, J., Forman, L., Cotton, R.W., and Word, C.J. 1995. Validation studies using the AmpliType<sup>®</sup> PM PCR Amplification and Typing Kit. 47<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA.

Cotton, R.W., Kriss, J., Sipes, D.E., Wadhams, M., Forman, L., and Word, C.J. 1995. Experimental validation of three STR loci for forensic casework. 47<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA.

Bing, D.H., and Word, C.J., et al. 1995. PCR based forensic testing with AmpliType<sup>®</sup> PM PCR Amplification and Typing Kit: The results of validation studies from forensic laboratories. 47<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA.

Word, C.J., Presenter. 1995. AmpliType Users Forum. 47<sup>th</sup> Ann. Mtg. Seattle, WA.

Word, C.J. 1995. Implementation of STR/AgNO<sub>3</sub> protocols on casework. Florida DNA Training Session III: Advanced PCR Applications. Altamonte Springs, FL.

Word, C.J., Cotton, R.W., Ranadive, A.A., and Weber, M.A. 1995. Forensic casework analysis using STRs, DQ $\alpha$  and PM in combination. Sixth International Symposium on Human Identification, Scottsdale, AZ.

Word, C.J. 1995. DNA Mid-Atlantic Association of Forensic Scientists Presents "The Gilbert and Trias Murders." Gaithersburg, MD.

Cotton, R.W., Chakraborty, R., Crouse, C., Forman, L., Kriss, J., Ranadive, A. A., Sipes, D.E., Weber, M.A., Weir, B., Word, C.J. 1996. Analysis of casework samples using a combination of the DQ $\alpha$ , PM, and 3 STR loci. 48<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Nashville, TN.

Word, C.J. 1996. DNA Interpretation Issues Workshop. Northwest Association of Forensic Sciences Meeting, Salt Lake City, UT.

Word, C.J. 1996. Interpretation of mixed samples. Human Identification Users Meeting. Rockville, MD.

Word, C.J. 1997. STR data goes to court - A laboratory perspective. Eighth International Symposium on Human Identification, Scottsdale, AZ.

Word, C.J. and Gregory, S.A. 1997. Optimization of recovery and PCR amplification of DNA from stamps and envelopes. Eighth International Meeting on Human Identification, Scottsdale, AZ.

Reynolds, J.E., Weber, M.A., Colombo, K., Swienton, A.R., Word, C.J., Yates, P.J., Cotton, R.W. 1997. DNA typing of the transfused individual. *Am. J. Hum. Genet.* 61(4):A1311; Poster presentation at the 47<sup>th</sup> Annual Meeting of the American Society of Human Genetics, Baltimore, MD.

Reynolds, J.E., Weber, M.A., Colombo, K.A., Swienton, A.R., Word, C.J., Yates, P.J., and Cotton, R.W. 1998. The effects of blood transfusion on RFLP and PCR DNA

typing: Forensic casework examples. 50<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, San Francisco, CA.

Word, C.J., Gregory, S.A., Reynolds, J.E., and Cotton, R.W., 1998. PCR amplification and overcoming inhibition of DNA recovered from adhesive surfaces. 50<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, San Francisco, CA.

Word, C. J. 1998. DNA quantitation and PCR inhibition issues. Florida DNA Training Session IV: STRs - The Next Generation, Orlando, FL.

Grossweiler, L.L., Gee, M.A., Crance, K.A., Sipes, D.E., Word, C.J., and Reynolds, J.E. 2000. Successful DNA extraction from serum samples. 11<sup>th</sup> International Symposium on Human Identification, Biloxi, MS.

Maddox, L.O., Suit, B., Koch, K., Higgins, J., Word, C.J., and Cotton, R.W. 2000. Forensic use of Abacus OneStep ABACard<sup>®</sup> test for the identification of the p30 antigen. 11<sup>th</sup> International Symposium on Human Identification, Biloxi, MS.

Word, C.J., Danielsen, L.A., Reynolds, J.E., Maddox, L.O., and Cotton, R.W. 2000. Multiple-laboratory validation of fluorescent STRs using proficiency test results. 11<sup>th</sup> International Symposium on Human Identification, Biloxi, MS.

Word, C.J., Reynolds, J.E., Cotton, R.W., Grossweiler, L.L., Maddox, L.O. 2001. Solving old crimes with new DNA testing - contracting "cold" cases. 53<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA. (presented by Melissa B. Thompson)

Cotton, R.W., Word, C.J., Danielsen, L.A., Reynolds, J.E., and Maddox, L.O. 2001. Demonstration of general acceptance of STR data to the court. 53<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA.

Cotton, R.W., Kriss, J.E., Colombo, K.A., Word, C.J., and Maddox, L.O. 2001. Defining alleles for four Y chromosomal markers without benefit of allelic ladders as part of Y chromosome validation studies. 53<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA.

Maddox, L.O., Suit, B., Word, C.J., Cotton, R.W. 2001. Advantages of enhanced sensitivity of product gel staining using GelStar<sup>™</sup> nucleic acid stain. 53<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA.

Gee, M.A., Grossweiler, L.L., Crance, K.A., Sipes, D.E., Word, C.J., and Reynolds, J.E. 2001. Recovery of DNA from serum samples. 53<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA.

Word, C.J. 2001. Panelist at Brooklyn Law School Symposium, DNA: Lessons from the Past, Problems for the Future, Brooklyn, NY.

Grgicak, C.M., Reynolds, J.E., Sipes, D.E., Rosier, L.R., Knickerbocker, C.J., Zimmerman, C.E., Shofkom, A.E., Befus, J.K., Cotton, R.W., Word, C.J. 2002. Relative sensitivity comparison between ABI fluorescent detection instruments using data from large scale no-suspect casework. 54<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Atlanta, GA.

Cline, R., Polhamus, C., Winebrenner, L., Leisy, C., Heller, A., Cicco, M., Grossweiler, L., Kokoszka, J. E., and Word, C. J. 2002. The night the lights went out in Germantown, An amplification study. 13<sup>th</sup> International Symposium on Human Identification, Phoenix, AZ.

Grgicak, C., Sipes, D.E., Grossweiler, L.L., Cotton, R.W., Word, C.J. 2003. Comparative Analysis of the DNA IQ<sup>TM</sup> and QIAamp DNA<sup>®</sup> Extraction Kits for the Processing of Forensic Evidentiary Samples. 55<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Chicago, IL.

Grossweiler, L.L., Word, C.J., Maddox, L.O., 2003. Decision Branches for Testing of No Suspect Casework. 55<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Chicago, IL.

Word, C.J. Co-presenter 2005. Presenting DNA Evidence in Court. Sixteenth International Symposium on Human Identification, Dallas, TX

Word, C.J. 2006. Presented Workshop: Statistics in the Courtroom. 5<sup>th</sup> Annual Bode East Coast Advanced DNA Technology Workshop, Captiva Island, FL

Word, C.J. and Clarke, G. W. 2006. Presented Workshop: Courtroom Testimony: What You Need to Know. 17<sup>th</sup> Annual International Symposium on Human Identification, Nashville, TN

Word, C.J. and Dale, W. M. 2006. Quality Management System Concept and Tools "Mistakes Happen-What to do when it Happens to you & How to Prevent Them". 17<sup>th</sup> Annual International Symposium on Human Identification, Nashville, TN

Word, C.J. and Clarke, G. W. 2007. Presented Workshop: Expert Witness Testimony. 18<sup>th</sup> Annual International Symposium on Human Identification, Hollywood, CA.

Word, C.J. 2009. Presented Workshop: Expert Witness Testimony for New and Advanced DNA Analysts. Albany, NY

Word, C.J. 2009. What is LCN? Definitions and Challenges. 20<sup>th</sup> International Symposium on Human Identification, Las Vegas, NV

Word, C.J., Cotton, R.W., Grgicak, C., Butler, J. and Coble, M. 2010. Mixture Interpretation: Principles, Protocols, Practice Workshop at 21<sup>st</sup> International Symposium on Human Identification, San Antonio, TX

Word, C.J. 2011. DNA Testing – Can Anyone be Excluded? Bode West meeting, San Diego, CA

Word, C.J. 2011. Achieving Neutrality as an Expert, Bode West meeting, San Diego, CA

Word, C.J., Cotton, R.W., Grgicak, C.M., Coble, M.D., and Butler, J.M. 2011. Mixture Interpretation: Principles, Protocols, Practice Workshops in Florida, Texas, Michigan and Arizona

Word, C.J. 2011. Mixture Interpretation. Green Mountain DNA Conference, Burlington, VT

Word, C.J., Cotton, R.W., Grgicak, C.M., Coble, M.D., and Butler, J.M. 2011. Mixture Interpretation: Using Scientific Analysis Workshop at 22<sup>nd</sup> International Symposium on Human Identification, National Harbor, MD

Cotton, R.W., Butler, J.M., Coble, M. D., Grgicak, C.M., Word, C.J., and Gunn, L.M. 2011. SWGDAM Mixture Interpretation Guidelines: Successes, Issues and Suggested Future Directions. Poster presented at 22<sup>nd</sup> International Symposium on Human Identification, National Harbor, MD

Cotton, R.W., Butler, J.M., Coble, M. D., and Word, C.J. 2012. DNA Mixture Interpretation Workshop. The NIJ Conference 2012, Arlington, VA

Word, C.J. 2012. “New and Improved” Technology – Where Have We Come and Where Do We Need to Go? Green Mountain DNA Conference, Burlington, VT

Word, C.J., Butler, J.M., Coble, M. D., Grgicak, C.M. and Cotton, R.W. 2012. 2012 Mixture Interpretation Workshop: Mixtures Using Sound Statistics, Interpretation and Conclusions. 23<sup>rd</sup> International Symposium on Human Identification, Nashville, TN

Word, C.J. Challenges and Impact of DNA Interpretation for Forensic Analysis. 2013. 29<sup>th</sup> International Symposium on MicroScale Bioseparations, University of Virginia, Charlottesville, VA

Word, C.J. Current Issues of DNA Testing. 2013. NACDL & CACJ’s 6<sup>th</sup> Annual Forensic Science & the Law Conference “Making Sense of Science VI”, Las Vegas, NV

Word, C.J. Different Assumptions & Different Conclusions. 2013. NIST DNA Mixture Interpretation Workshop & Webcast, with Butler, J.M., Coble, M.D., Cotton, R.W., Heidebrecht, B., Gaithersburg, MD



Word, C.J. Complex Mixtures. 2013. NIST DNA Mixture Interpretation Workshop & Webcast, with Butler, J.M., Coble, M.D., Cotton, R.W., Heidebrecht, B., Gaithersburg, MD

Word, C.J., Cotton, R., Butler, J., Coble, M. and Grgicak, C. 2013. A Clarion Call to Improve the Underlying Science, Laboratory Efficiency and Cost Associated with Testing of Complex DNA Mixtures and Interpretation. ASCLD 40<sup>th</sup> Anniversary Meeting, Durham, NC

Word, C.J. 2013. Complex Mixture Interpretation Issues. 2<sup>nd</sup> Annual Advanced DNA Technology Workshop – Bode Mid-Atlantic, Charlottesville, VA

Word, C.J., Buzzell, L.H. III, Scoville, S.G., Spurgeon, T. 2013. Expert Witness Testimony Workshop. 24<sup>th</sup> International Symposium on Human Identification. Atlanta, GA

Word, C.J. 2013. Complex Mixture Fundamentals. DNA Technical Leader Summit. Norman, OK

Word, C.J. 2013. Recent Issues Seen in Court. DNA Technical Leader Summit. Norman, OK

Word, C.J. 2013. Court Admissibility Considerations. DNA Technical Leader Summit. Norman, OK

Butler, J.M., Word, C.J., Coble, M. 2014. DNA Mixture Interpretation: History, Challenges, Statistical Approaches, and Solutions. 66<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA

Word, C.J. 2014. Science of the Current Generation. MAAFS 2014 Winter Workshop: TARDIS of Molecular Biology, Manassas, VA

Word, C.J. 2014. New Aspects of Testimony. MAAFS 2014 Winter Workshop: TARDIS of Molecular Biology, Manassas, VA

Word, C.J. 2014. Scientific Neutrality in Expert Witness Testimony. Plenary Session co-presented with Lewis Buzzell III, J.D. and Scott Scoville, J.D. MAAFS 2014 Annual Meeting, State College, PA

Word, C.J. 2014. Why Do We Need to Consider Probabilistic Modeling? NIST DNA Analyst Webinar Series: Probabilistic Genotyping and Software Programs (Part 1)

Word, C.J. 2014. Why Do We Need Probabilistic Modeling? Green Mountain DNA Conference, Burlington, VT

Word, C.J. 2014. Why Do We Need Probabilistic Software? and Reporting Likelihood Ratios & Court, Almost Everything You Wanted to Know About Probabilistic Software Workshop, Co-Chair of Workshop, International Symposium on Human Identification, Phoenix, AZ

Word, C.J. 2014. Complex DNA Mixtures: Issues in Interpretation, The Center for Forensic Science Research & Education, Advanced Topics for Human Identification & Data Interpretation, Philadelphia, PA

Word, C.J. 2015. Scientific Neutrality in Expert Witness Testimony Workshop. “Role and Responsibilities of the Forensic Science Expert Witness” and “Preparing for Court Testimony.” Co-presented with Lewis Buzzell III, J.D., Christopher Plourd, J.D., Ronald Reinstein, J.D. and Tammy Spurgeon, J.D. American Academy of Forensic Sciences 2015 Annual Meeting, Orlando, FL

Word, C.J. 2015. Errors in DNA Testing: Lessons Learned – A Retrospective Look. American Academy of Forensic Sciences 2015 Annual Meeting, Orlando, FL

Word, C.J. 2015. An Application of the Kipling Method to DNA Validation in the 21<sup>st</sup> Century Workshop. “Introduction to Validation” and “From Validation to SOP.” Co-presented with Michael Coble, Ph.D. and Robin W. Cotton, Ph.D., American Society of Crime Laboratory Directors (ASCLD) 42nd Annual Meeting: Excellence in Forensic Leadership – Policy and Practice in the 21<sup>st</sup> Century, Washington, DC

Word, C.J. 2015. Errors in Interpretation of DNA Profile Data. International Symposium on Forensic Science Error Management – Detection, Measurement and Mitigation, Crystal City, VA

Word, C.J. 2015. Errors in a DNA Testing Laboratory. International Symposium on Forensic Science Error Management – Detection, Measurement and Mitigation, Crystal City, VA

Word, C.J. 2015. What Does This Statement Really Mean? (poster) 26<sup>th</sup> Congress of the International Society for Forensic Genetics. Krakow, Poland

Word, C.J. 2015. Scientific Perspective of Current Admissibility Challenges. In “Why are We Having DNA Admissibility Hearings?” panel discussion. 26<sup>th</sup> International Symposium on Human Identification, Dallas, TX

Word, C.J. 2016. Limitations of Current DNA Testing: Information That May Not Be in Reports. American Academy of Forensic Sciences 2016 Annual Meeting, Las Vegas, NV

Word, C.J. 2016. What Errors Are We Looking For and How Can We Look For More? American Academy of Forensic Sciences 2016 Annual Meeting, Las Vegas, NV

Word, C.J. 2016. Changes in Guidelines Governing Mixture Interpretation:

New SWGDAM Guidelines, Population Database Problems & Implication for Post-Conviction Cases, NACDL In the Mix? Dealing With DNA, Cognitive Bias & Habeas in the Innocence Case, San Antonio, TX

Word, C.J. 2016. Final Reports: Do They Say What We *Really* Mean? Mid-Atlantic Association of Forensic Scientists Annual Meeting, Richmond, VA

Word, C.J. 2016. Probabilistic Genotyping: Issues and Research Needs. Gordon Research Conference: Forensic Analysis of Human DNA, Waterville Valley, NH

Word, C.J. and Coble, M.D. (co-chair) 2016. Validation and Mixture Interpretation SOPs Workshop. 27<sup>th</sup> International Symposium on Human Identification, Minneapolis, MN

Word, C.J. and Cotton, R.W. (co-chair) 2016. Errors in Forensic Testing: Detection, Management & Resolution Workshop. 27<sup>th</sup> International Symposium on Human Identification, Minneapolis, MN

#### Seminars/Workshops Attended

69<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, New Orleans, LA, 2017

27<sup>th</sup> International Symposium on Human Identification, Minneapolis, MN, 2016

HITA Workshop – Determining Phenotypes from Genotypes. 27<sup>th</sup> International Symposium on Human Identification, Minneapolis, MN, 2016

Gordon Research Conference: Forensic Analysis of Human DNA, Waterville Valley, NH, 2016

Mid-Atlantic Association of Forensic Scientists Annual Meeting, Richmond, VA 2016

Technical Colloquium Quantifying the Weight of Forensic Evidence, NIST, Gaithersburg, MD, 2016

In the Mix? Dealing With DNA, Cognitive Bias & Habeas in the Innocence Case, NACDL, San Antonio, TX, 2016

68<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Las Vegas, NV, 2016

26<sup>th</sup> International Symposium on Human Identification, Dallas, TX, 2015

HITA Workshop – Addressing Social Issues with Human Identification: An Interactive Workshop. 26<sup>th</sup> International Symposium on Human Identification, Dallas, TX, 2015

Forensic Mixtures: Assessment, Analysis and Technology: Current Methods, New Approaches and Disruptive Technologies Workshop. 26<sup>th</sup> International Symposium on Human Identification, Dallas, TX, 2015

Countdown to 2017: Internal Validation of the New CODIS Loci Workshop. 26<sup>th</sup> International Symposium on Human Identification, Dallas, TX, 2015

26<sup>th</sup> Congress of the International Society for Forensic Genetics. Krakow, Poland, 2015

Beyond DNA-Profiling: RNA-Profiling, Transfer and Persistence – What is it and How did it Get There? Workshop. 26<sup>th</sup> Congress of the International Society for Forensic Genetics. Krakow, Poland, 2015

The New Y Chromosome Haplotype Reference Database and Optimized Approaches for the Forensic Y-STR Analysis, Workshop. 26<sup>th</sup> Congress of the International Society for Forensic Genetics. Krakow, Poland, 2015

Ethical, Legal and Social Issues in Forensic Genetics, Workshop. 26<sup>th</sup> Congress of the International Society for Forensic Genetics. Krakow, Poland, 2015

International Symposium on Forensic Science Error Management – Detection, Measurement and Mitigation, Crystal City, VA, 2015

American Society of Crime Laboratory Directors (ASCLD) 42nd Annual Meeting: Excellence in Forensic Leadership – Policy and Practice in the 21<sup>st</sup> Century, Washington, DC, 2015

67<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Orlando, FL, 2015

Advanced Topics for Human Identification & Data Interpretation, The Center for Forensic Science Research & Education, Philadelphia, PA, 2014

25<sup>th</sup> International Symposium on Human Identification, Phoenix, AZ, 2014

New Autosomal and Y-STR Loci and Kits, International Symposium on Human Identification, Phoenix, AZ, 2014

Interpretation of Complex DNA Mixtures: The Biological and Statistical Perspectives, International Symposium on Human Identification, Phoenix, AZ, 2014

Almost Everything You Wanted to Know About Probabilistic Software, International Symposium on Human Identification, Phoenix, AZ, 2014

Emerging Forensic Genomic Applications, Greenville, NC, 2014

Green Mountain DNA Conference, Burlington, VT, 2014

NIST DNA Analyst Webinar Series: Probabilistic Genotyping and Software Programs (Part 1), Gaithersburg, MD 2014

Mid-Atlantic Association of Forensic Scientists Annual Meeting, State College, PA 2014

NFI Symposium: Interpretation of complex DNA profiles, The Hague, Netherlands, 2014

MAAFS 2014 Winter Workshop: TARDIS of Molecular Biology, Manassas, VA, 2014

DNA Technical Leader Summit, Norman, OK, 2013

2<sup>nd</sup> Annual Advanced DNA Technology Workshop – Bode Mid-Atlantic , Charlottesville, VA, 2013

24<sup>th</sup> International Symposium on Human Identification, Atlanta, GA, 2013

23<sup>rd</sup> Congress of the International Society for Forensic Genetics 2013, Melbourne, Australia, 2013

Advanced Principles in Forensic DNA Evidence Interpretation, International Society for Forensic Genetics 2013, Melbourne, Australia, 2013

Writing and Reviewing Scientific Papers Workshop, International Society for Forensic Genetics 2013, Melbourne, Australia, 2013

American Society of Crime Laboratory Directors (ASCLD) 40<sup>th</sup> Annual Meeting: The Business Behind the Science, Durham, NC, 2013

NIST DNA Mixture Interpretation Workshop & Webcast, Gaithersburg, MD, 2013

NACDL & CACJ's 6<sup>th</sup> Annual Forensic Science & the Law Conference "Making Sense of Science VI", Las Vegas, NV, 2013

29<sup>th</sup> International Symposium on MicroScale Bioseparations, University of Virginia, Charlottesville, VA, 2013

65<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Washington, D.C. 2013

23<sup>rd</sup> International Symposium on Human Identification, Nashville, TN, 2012

Green Mountain DNA Conference, Burlington, VT, 2012

The NIJ Conference 2012, Turning to Science: Enhancing Justice, Improving Science, Reducing Costs, Arlington, VA 2012

22<sup>nd</sup> International Symposium on Human Identification, National Harbor, MD, 2011

Green Mountain DNA Conference, Burlington, VT, 2011

The NIJ Conference 2011, Translational Criminology: Shaping Policy and Practice with Research, Crystal City, VA, 2011

Bode West meeting, San Diego, CA, 2011

63<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Chicago, IL, 2011

NIJ/OLES-funded Research Symposium, Office of Law Enforcement Standards, National Institutes of Standards and Technology, Gaithersburg, MD, 2010

American Society of Human Genetics, 60<sup>th</sup> Annual meeting, Washington, D.C. 2010

21<sup>st</sup> International Symposium on Human Identification, San Antonio, TX, 2010

American Society of Crime Laboratory Directors Meeting, Baltimore, MD, 2010

15<sup>th</sup> National CODIS Conference, Reston, VA, 2009

20<sup>th</sup> International Symposium on Human Identification, Las Vegas, NV, 2009

Ethics Workshop, 20<sup>th</sup> International Symposium on Human Identification, Las Vegas, NV, 2009

The NIJ Conference 2009, Crystal City, VA, 2009

14<sup>th</sup> National CODIS Conference, Crystal City, VA, 2008

19<sup>th</sup> International Symposium on Human Identification, Hollywood, CA, 2008  
Ethics and Forensic Science Workshop, 19<sup>th</sup> International Symposium on Human Identification, Hollywood, CA, 2008

Troubleshooting Common Laboratory Problems Workshop, 19<sup>th</sup> International Symposium on Human Identification, Hollywood, CA, 2008

The NIJ Conference 2008; Criminal Justice Research, Development and Evaluation in the Social and Physical Sciences, Crystal City, VA, 2008

60<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Washington, D.C. 2008

Human DNA Quantification Using Real Time PCR Assays Workshop, 60<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Washington, D.C. 2008

DNA Mixture Interpretation: Principals and Practice in Component Deconvolution and Statistical Analysis Workshop, 60<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Washington, D.C. 2008

Eighteenth International Symposium on Human Identification, Hollywood, CA, 2007.

The NIJ Conference 2007; Forensic DNA: Tools, Technology, and Policy, Arlington, VA, 2007

Grant Progress Assessment Training, Washington, D.C. 2007

HID 3130 Systems Training Program, Applied Biosystems, Rockville, MD, 2007

Twelfth National CODIS Conference, Arlington, VA, 2006

Seventeenth Annual International Symposium on Human Identification, Nashville, TN, 2006

5<sup>th</sup> Annual Bode East Coast Advanced DNA Technology Workshop, Captiva Island, FL, 2006

58<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA, 2006

Eleventh National CODIS Conference, Crystal City, VA, 2005

Sixteenth International Symposium on Human Identification, Dallas, TX, 2005

DNA Auditors Training Class, Quantico, VA, 2004

Tenth National CODIS Conference, Crystal City, VA, 2004

56th Annual Meeting of the American Academy of Forensic Sciences, Dallas, TX, 2004

American Prosecutors Research Institute National Conference: Justice Speaks, Crystal City, VA, 2003

Ninth National CODIS Conference, Lansdowne, VA, 2003

ASCLD/LAB Inspector's Training Class, Harrisburg, PA, 2003

Population Genetics Workshop, Taught by Dr. George Carmody, Rockville, MD, 2003

54<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Atlanta, GA, 2002

Y Chromosome Analysis and its Application to Forensic Casework Workshop, 54<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Atlanta, GA, 2002

Forensic Mitochondrial DNA Analysis: A Community Forum Workshop, 54<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Atlanta, GA, 2002

Statistics II – Forensic Mixture Interpretation & Analysis, Thirteenth International Symposium on Human Identification, Phoenix, AZ, 2002

Thirteenth International Symposium on Human Identification, Phoenix, AZ, 2002

Brooklyn Law School Symposium, DNA: Lessons from the Past, Problems from the Future, Brooklyn, NY, 2001

Twelfth International Symposium on Human Identification, Promega, Biloxi, MS, 2001

DNA Audit Class, Quantico, VA, 2000

52<sup>nd</sup> Annual Meeting of the American Academy of Forensic Sciences, Reno, NV, 2000

Fifth Annual Conference on the Future of DNA: Implications for the Criminal Justice System, New York, NY, 2000

Florida DNA Training Session V: DNA 2000, Miami Lakes, FL, 2000

Eleventh International Symposium on Human Identification, Promega, Biloxi, MS, 2000

Casework Guidelines and Complex Mixture Interpretation Workshop, Promega, Biloxi, MS, 2000

Statistics Workshop, Promega, Orlando, FL, 1999

Mitochondrial DNA Sequence Analysis in Forensic Casework Methods and Issues Workshop, Promega, Orlando, FL, 1999

Tenth International Symposium on Human Identification, Promega, Orlando, FL, 1999

50<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, San Francisco, CA, 1998

Florida DNA Training Session IV: STRs - The Next Generation, Orlando, FL, 1998

Ninth International Symposium on Human Identification, Promega, Orlando, FL, 1998



49<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, New York, NY, 1997

Eighth International Meeting on Human Identification, Promega, Scottsdale, AZ, 1997

A Workshop in Statistics for Forensic Scientists, St. Petersburg Junior College, St. Petersburg, FL, 1996

The Seventh International Symposium on Human Identification, Promega, Scottsdale, AZ, 1996

Northwest Association of Forensic Sciences, Salt Lake City, UT, 1996

Human Identification Users Meeting, Rockville, MD, 1996

47<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Seattle, WA, 1995

Florida DNA Training Session III: Advanced PCR Applications, Altamonte Springs, FL, 1995

The Sixth International Symposium on Human Identification, Promega, Scottsdale, AZ, 1995

The Mid-Atlantic Association of Forensic Scientists Present “The Gilbert and Trias Murders,” Gaithersburg, MD, 1995

46<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, San Antonio, TX, 1994

The Fifth International Symposium on Human Identification, Promega, Scottsdale, AZ, 1994

BioEast '94 Workshop, Washington, D.C., 1994

45<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, Boston, MA, 1993

The Second International Symposium on the Forensic Aspects of DNA Analysis, Quantico, VA, 1993

Florida DNA Training Session II: PCR Applications, Orlando, FL, 1993

The Fourth International Symposium on Human Identification, Promega, Scottsdale, AZ, 1993

44<sup>th</sup> Annual Meeting of the American Academy of Forensic Sciences, New Orleans, LA, 1992

The Third International Symposium on Human Identification, Promega, Scottsdale, AZ, 1992

AmpliType HLA DQ $\alpha$  Forensic DNA Amplification and Typing Workshop, 1992.

43<sup>rd</sup> Annual Meeting of the American Academy of Forensic Sciences, Anaheim, CA, 1991

The Second International Symposium on Human Identification, Promega, Madison, WI, 1991

Eighth International Congress of Human Genetics, Washington, D.C., 1991

Association of Biotechnology Companies, Washington, D.C., 1991

International Symposium on Continuous Cell Lines - An International Workshop on Current Issues, Bethesda, MD, 1991

The Institute of Continuing Legal Education in Georgia, Criminal Law and DNA meeting, Atlanta, GA, 1990

California Association of Criminalist Meeting, Long Beach, CA. (taught course), 1990

Revised April 13, 2017

## DECLARATION OF ELIZABETH VARTKESSIAN, PH.D.

1. I am the Executive Director of ARC, Inc., a not-for-profit organization located in Baltimore, Maryland that provides mitigation investigation in capital and juvenile cases. I have worked as a mitigation specialist in death penalty cases since 2004 at the trial, state and federal post-conviction, and clemency stages. I have worked as a mitigation specialist on well over 30 death penalty cases in the last 13 years. I currently supervise a staff of five mitigation specialists of varying degrees of experience.
2. I am a licensed Private Detective in Maryland. I have held Private Investigator licenses in Texas and New York.
3. I received my Bachelor's Degree in Philosophy and Political Science with Honors from The George Washington University. I received a Master's of Science in Comparative Social Policy from the University of Oxford, St. Antony's College. I returned to the University of Oxford, St. Hilda's College to undertake my Ph.D. (DPhil) in Law, which I was awarded in 2012.
4. My doctoral research investigated how capital jurors come to make their sentencing decisions with a focus on understanding their receptivity to mitigation evidence. I worked as a part of the Capital Jury Project, a National Science Foundation sponsored program that has yielded over 70 publications in peer review and law review journals as well as being cited in six United States Supreme Court decisions.
5. My research has been widely cited by the American Bar Association (ABA). My publications appear in both law and peer view journals as well as in invited contributions to books. My most recent publication appears as a co-authored chapter in the forthcoming ABA book "To Tell the Client's Story: Mitigation in Criminal and Death Penalty Cases".
6. I am often an invited presenter and faculty member at national and state trainings. I have been an invited speaker in various jurisdictions, including Arkansas, where I presented to the Arkansas Association of Criminal Defense Lawyers on the topics of records collection and capital jurors in 2014. My curriculum vita is included with this declaration (Ex. A).
7. On March 22, 2017, I was contacted by Jessica Brand, the legal director of the Fair Punishment Project—a joint initiative with Harvard Law School's Charles Hamilton Houston Institute for Race and Justice and its Criminal Justice Initiative. Ms. Brand had recently researched the cases and was preparing to publish a report about the scheduled executions. Her report, which was published on March 30, determined that among other issues there was a lack of investigation conducted in the eight cases (See, *Prisoners on Arkansas's Execution List Defined By Mental Illness, Intellectual Disability, and Bad Lawyering* at <http://fairpunishment.org/new-report->

arkansass-executions/). Due to this concern, Ms. Brand contacted me about my availability to assist in conducting a social history investigation in Mr. Lee's case. On March 27 I was informed that Mr. Lee's counsel, Mr. Kent Gipson, had agreed to accept the offer of mitigation services and would arrange for me to visit with Mr. Lee as soon as possible. I provided my availability, cleared my schedule, and sent copies of my drivers and Private Detective licenses. After several follow up emails I did not hear anything further about whether I was needed.

8. On or around April 7<sup>th</sup> I was contacted by Cassandra Stubbs of the ACLU and asked if I was still available to provide mitigation services in his case. I confirmed I was, and she contacted Mr. Lee's Arkansas counsel, Lee Short, who quickly arranged for me to visit with Mr. Lee in prison during the week of April 10<sup>th</sup>. I began reviewing approximately 300 pages of pleadings from the case on April 9<sup>th</sup> and flew to Little Rock, Arkansas on April 10<sup>th</sup>. I conducted investigation on Mr. Lee's case in Arkansas until the evening of April 14, 2017.

#### **ASSESSING INVESTIGATION – DOCUMENT REVIEW OF COUNSEL'S FILES**

9. In my review of the pleadings in preparation for the trip my primary focus was on a few issues - the conflicts of Mr. Lee's trial counsel, the extra-marital affair Judge Chris Piazza and Melody LaRue were engaged in during his trial, and the issues surrounding his post-conviction counsel Craig Lambert's intoxication during his initial rule 37 hearing. I noted that counsel Danny Glover and Gerald Coleman who were appointed to do Mr. Lee's subsequent rule 37 hearing hired an investigator named Matilda Buchanan, but from the materials I could not see what work was conducted. The pleadings indicated that Mr. Glover and Coleman did not present any additional evidence beyond that presented by Mr. Lambert.
10. In order to review Ms. Buchanan's notes I contacted Mr. Lee's counsel Kent Gipson to ask for her records. He indicated that he had sent all his files to Mr. Lee Short for "logistical reasons". I was surprised that he did not have an electronic copy of the records given that he was still counsel of record. Indeed, when I inquired about how I might reach Ms. Buchanan he provided me with a number that did not work. The man who answered the phone stated that he had had the number for 14 years. Mr. Gipson did not have an alternative way to reach Ms. Buchanan. From the pleadings she appeared to be the primary investigator who had worked on the case in its 24-year history.
11. In order to better understand what had been done in Mr. Lee's case, I reviewed his case files at Mr. Short's office on April 11. As previously noted, Mr. Lee's case is over 20 years old. I have worked on a number of capital resentencing cases, cases in federal habeas, and cases in late stage litigation. I expected to see numerous boxes of notes, investigative memos, reports, a witness list and a chronology that included both the social history of the client as well as the facts of the case. I expected to see records requests and the fruits of those efforts. I expected to see correspondence

from the client to the attorneys and from the attorneys to the client. I expected to see pre-trial motions, reports from the coroner, reports from tests of the physical evidence, defense expert reports or trial counsel notes from conversations with retained experts that they might not have eventually used for strategic reasons. What I saw instead were three boxes filed mainly with copies of the pleadings I had already reviewed. Contained within the file were some handwritten notes, some materials from Ms. Buchanan, and some newspaper clippings about the case. Other than the Buchanan materials, there was no evidence of any investigative work.

12. I reviewed Ms. Buchanan's materials closely. She had prepared a chronology that focused entirely on the relationships between Judge Piazza and members of the prosecutor's office, where he had worked as the head prosecutor before leaving for the bench. She had interviewed a number of employees of that office. These interviews revealed that Judge Piazza was a serial womanizer who had affairs with various women in that office. For instance, interview notes indicated that Judge Piazza had been having an affair with Teresa Napper, which ended when Ms. Napper's husband caught them having sex. She then married Hugh Finkelstein who was also a deputy prosecutor. Judge Piazza's relationship with Melody LeRue started shortly after his relationship with Ms. Napper ended.
13. One witness also indicated that sexual relationships between members of the prosecutor's office often took place during "work trips" and "trainings".
14. After the affair was discovered, Ms. Napper never returned to the prosecutor's office. Staff in the office were told not to speak of the circumstances of her departure. Two other employees packed up her belongings and she went to work for the Attorney General's office.
15. This same witness told Ms. Buchanan that the members of the prosecutor's office frequently partied together and were a "very incestuous bunch". On Thursday nights, they would stay late at the office, drink and have private meetings in various offices. Her notes went on to reveal that Piazza and LaRue's affair was common knowledge among members of the office by 1991. She also indicated that Piazza was close with other judges involved in Mr. Lee's case, including Judge Plegge, who officiated the wedding of Piazza and LaRue. The witness indicated that Piazza was a "pro at fooling around" and that he had told her he didn't want anyone "fucking around in his business." The witnesses recounted that it was common knowledge in the office that Judge Piazza lied on the stand in Mr. Lee's case.
16. At the end of the memo was a list of follow-up tasks, which included subpoenaing Piazza and LaRue's phone records from 1994-1995, records of Pulaski County Prosecutor's Office employee vacation time, travel, and professional training reimbursements for 1991-1995, and Piazza's docket for 1991-1995. It does not appear that any of these records were obtained or requested.

17. There was only scant correspondence included in Ms. Buchanan's file. However, what was there was illuminating. She had reached out to attorney Scott Braden about the case. In her message she wrote, "I may need to take you to a fancy lunch place to pick your brain about the pitfalls of this case. I just read where the def attorney was turned down by six investigators including one that I think is the single most unethical PI I've ever run across. All refused because they were afraid of going up against the state and Judge Piazza. What have I gotten myself into?" (Ex. B).
18. Some of Ms. Buchanan's billing records were also included. In May 2007 she billed for 14.25 hours of work, for a total of \$789.64. (Ex. C). On April 13 I requested the billing totals for those involved in Mr. Lee's case that had been paid by the Arkansas Public Defender Commission. This showed that Ms. Buchanan had been paid a total of \$3,386.82. This total includes expenses related to her work on the case. Due to time limitations I was not able to obtain the complete invoicing in Mr. Lee's case. The records exist off site from the Commission if they exist at all. Ms. Buchanan's rate was \$50 an hour so I estimate that she worked about 60 hours in total investigating the facts of Mr. Lee's case. The rule 37 hearing for which she was retained took place on August 28, 2007. Ms. Buchanan spent about 60 hours over four months helping counsel prepare for this critical stage of litigation.
19. According to Ms. Buchanan's own notes she was responsible for the "guilt" phase investigation, yet no records existed within the files about alternate suspects, the forensics involved in the case, publically available records for the witnesses who testified, or any correspondence with potential experts to evaluate the evidence against Mr. Lee. The correspondence between Ms. Buchanan and counsel shows that they did not guide the investigation leaving Ms. Buchanan to investigate independently, without direction from counsel.
20. The only records I found related to Mr. Lee had been requested by Mr. Short. They were approximately 92 pages of medical health records from the Department of Corrections spanning the years 2015-2017. In the 24 year history of this case Mr. Lee has had at least ten separate attorneys. No one appears to have meaningfully investigated the allegations lodged against him or to have conducted even the most basic of social history investigation. To call the investigation paltry would be an overstatement.

#### **MR. LEE'S MENTAL HEALTH AND OTHER MITIGATION**

21. I met with Ledell Lee three times during the four days I had to conduct mitigation investigation in Arkansas; April 11 for approximately three hours, April 12 for approximately 6 hours; and April 14 for less than one hour.
22. On meeting Mr. Lee I observed physical indications of potential traumatic brain injury and possible Fetal Alcohol Spectrum Disorder (FASD). An easily visible scar is located on Mr. Lee's face above his right eyebrow. When asked how he got the scar

he indicated it happened when he participated in boxing while at a youth detention facility.

23. The physical characteristics of FASD, which I noted on meeting Mr. Lee, include small eye openings, eyes that are very far apart, ears that looked pointed and folded over as if there was something biological that happened when he was developing inside the womb, and a smooth and wide philtrum.
24. Mr. Lee also has a finger that is unusually bent. I asked Mr. Lee about this and he explained that he had broken his finger playing basketball when he was about 12 years old. His family did not have the money for him to go to the doctor so he had placed a couple of sticks around it and wrapped it with tape. He had watched a TV program where he saw someone do something similar. The injury eventually healed but his finger was never the same.
25. Throughout our conversations I also noted that Mr. Lee had a hard time focusing. He lost track of the conversation at various points. This is consistent with what he described with respect to his educational history. He explained that he often struggled to stay focused in school, frequently daydreaming and not able to pay attention. Mr. Lee said that he had been held back in the 7<sup>th</sup> and 8<sup>th</sup> grades. He dropped out of school in the 9<sup>th</sup> grade because he had trouble understanding the work he needed to do. His reported attending two elementary schools and his school records reflect that the first school was Harrison Learning Center, a school for children in special education. He transferred in first grade and appeared to remain in some kind of special education courses. Even as a special education student he could not do some of the most basic tasks. For example, he explained that he struggled mightily with fractions and basic division. He started the first grade at the age of 7.
26. He was concrete in his thinking. One example of this was when we discussed common street drugs in circulation in the 1980s and 1990s. I mentioned that I thought wet, a marijuana cigarette dipped in formaldehyde, was popular back then. He said it was, but that he didn't understand why people would use it. He heard that formaldehyde was used on dead people so to Mr. Lee, smoking wet would be like someone smoking a dead person. He didn't understand why someone would want to do that.
27. Mr. Lee also stammered from time to time and said the wrong words, such as when he meant to say aptitude test he said altitude test.
28. Mr. Lee is one of seven children born to his mother Stella Young. He has an older brother who the family reports as being mentally ill. Stella had another child before Mr. Lee, a daughter who died of crib death. Stella gave birth to Mr. Lee when she was just 16 years old. Therefore, her first pregnancy was likely to have been as early as age 13.

29. No one has ever taken a basic family history from Mr. Lee. In addition to his own large immediate family, his mother was also one of nine children. He believes his biological father, Ledell Lee Jr., had two other siblings. His biological father was born in Milwaukee and has several children from other relationships. It seems that his father was about 4 years older than his mother at the time that they conceived Mr. Lee. That would mean his mother was approximately 14 years old and having a sexual relationship with an 18 year old. It is not clear whether this was a consensual relationship given her youth.
30. Mr. Lee's biological father has stage four Alzheimer's disease and is living in an assisted living facility.
31. Mr. Lee lived with his mom and her brothers and sisters in his grandmother's house until his mother married his step-father, Eddie Young. They married when Mr. Lee was about 5 years old.
32. Mr. Lee's maternal grandmother's house was full. She and her common-law husband lived in one room. The rest of the 9 children lived in any nook or cranny the house had. It is not clear if any of Mr. Lee's cousins were also living there at the time. They were poor. The couch in the main room didn't have legs on one side so someone in the family found a brick in the road and used that to prop the couch up. Mr. Lee didn't have a bed to sleep in. He had a blanket and slept on the floor where there was space with his brother and an uncle. In the summer time when it was hot they would tie up a sheet to a fan and then tie the other end of the sheet to something else. They would sleep in the fan tunnel to keep them cool and to keep the mosquitos out. In the winter he would sleep close to the stove, which the family used as their main source of heat. When it was very cold someone would turn on the burners as well as the oven to warm up the home. The fire source was propane. There was no central cooling or heating system.
33. Food was scarce. Mr. Lee's grandmother worked as a janitor and her boyfriend worked at a slaughterhouse. He would also go hunting for bullfrogs and fish in local areas. The family had a deep freezer where extra meat from the slaughterhouse and hunting trips could be found. Mr. Lee's grandmother kept locks on the freezer and the refrigerator otherwise she would have been eaten out of house and home. Mr. Lee often went hungry.
34. The family lived next to a large drainage pipe. The part of Blytheville where the family lived routinely flooded. The drainage pipe had sewage, old appliances, shopping carts and trash in it. It was a dumping ground for trash and debris. It is not clear where Mr. Lee's family water supply came from or if the food they caught was tainted by toxins or chemicals coming from the drainage system.
35. Mr. Lee's mother, aunts and uncles partied hard on the weekends and usually at least once a week. His grandmother was a heavy drinker, enjoying her gold cans of Miller outside with friends. Her children drank whatever was available in the house.



In addition, they smoked weed. Some of his aunts and uncles also used heroin. Mr. Lee remembers seeing his one uncle, Eddie Booker shooting up regularly, using his belt as a tourniquet. His aunts and uncles would start drinking and getting high before heading to a local juke joint or club. It was less expensive to show up to the club already intoxicated. They would leave the house around 11 pm and return around 3 or 4 in the morning. When they came back Mr. Lee's grandmother usually let them have something to eat. Mr. Lee stated that he was happy when they came home so he could get some food too. He was frequently hungry.

36. Mr. Lee's mom smoked cigarettes throughout her pregnancies with his siblings. He recalled seeing her drink while pregnant as well. In addition to going out with her brothers and sisters she also enjoyed playing bingo. She continued to play throughout his life, often leaving her kids to do so, even though money was tight.
37. After Stella and Eddie married they lived in a small apartment. He was in the Air Force and was away from home a lot of the time. He served in Vietnam, South Korea, and in South Dakota. He would come home on occasion for 30 days at a time. Most of the time, Stella was essentially on her own trying to raise all the kids by herself.
38. Stella was the disciplinarian in the house. She was quick tempered and would beat Mr. Lee with a switch when he didn't comply with her demands. As one of the older children she leaned on him to help her with the household, but he wasn't able to do it the way she wanted much of the time. When he failed she would make him get a switch from a tree that she would use to whip him. If he returned with a switch that was too small he had to get a second one. She would then tie the switches together with a rope and beat him with that instead. He noted this double switch was called a willow switch because he could hear it whiz as she flung it up and down against him.
39. Stella also beat him when his siblings did something that she did not approve. For example, someone in the family once ate a pie she had made and because she could not determine who had eaten it she beat all the kids with a switch. Mr. Lee was a teenager at that point.
40. Mr. Lee cared deeply for his brothers and sisters. He was able to get breakfast and lunch at school and would therefore not take the food from home because he knew he would be able to get something to eat, whereas his younger siblings might not.
41. Mr. Lee started to get into trouble when he was about 11-12 years old. He was caught stealing with a friend of his and was sent to a juvenile detention center. Mr. Lee could not recall the name of the detention center, but remembered that he was given an IQ test and his first physical exam. He was one of the youngest children in the facility so after a few months of being there he was sent back to the diagnostic center where a makeshift dorm was opened for the youngest residents. He returned to the home when he was 13 years old. He could not recall how long he stayed. He remembered that he did janitorial work and school was not a large component of his daily schedule. He did not recall family coming to see him. He remembered that his

mother did not come to pick him up when he was released and he had to make his way back from Pine Bluff to Blytheville without any assistance. He was able to catch a ride with someone. He was given a total of two IQ tests at the diagnostic center.

42. Some of Mr. Lee's school records from Blytheville were included in the trial record. Those records indicate that he was transferred to a juvenile detention facility. Requesting these records is a standard initial mitigation investigation step and I am surprised that this has never been done before. Mr. Lee did not recall anyone ever asking him to sign releases for his records, another sign of a dramatic departure from standard practice. I worked with counsel Lee Short to request his juvenile file and records during my time in Arkansas.
43. I also note that there is a long history of abuse and mistreatment of children in Arkansas state facilities. Mr. Lee himself noted that one of the dorms was referred to as Little Saigon.
44. Despite the difficulties Mr. Lee experienced, he also tried extremely hard to be a good son, boyfriend, and father. He was always working. The jobs he had were unskilled, but he took tremendous pride in bringing home money and being able to support himself and help members of his family.

#### **FAMILY WITNESSES: MENTAL HEALTH AND OTHER MITIGATION**

45. I conducted brief interviews with Mr. Lee's step-father Eddie Young, his mother Stella Young, his sister Lynn Coates, and the mother of one of his daughters.
46. Eddie relayed helpful information about Mr. Lee's work experience. The family moved to Valdosta, Georgia when Mr. Lee was about 14 years old. At some point Eddie helped get Mr. Lee a job on the base as a janitor. He explained that after the family moved back to Arkansas they did not have a lot of contact with Mr. Lee because he was moving around. He had moved to Colorado to live with one of his brothers who was stationed there for the military. He could not find a job so he left.
47. Stella displayed signs of mental illness. She rocked back and forth during our conversation, spoke with slurred speech, and was narrowly focused on her son's innocence. She shared with me a large suitcase full of clipping from newspapers about her son's case over the years. She explained that she doesn't like to go out at night because she is worried she will be killed. She does not sleep for more than a couple of hours a night and normally stays in the front room with a gun. She would shoot anyone who came into her house.
48. Stella did indicate that members of the defense team prior to Mr. Short had not come to see her in person. No one had asked her about her family history or asked her to sign releases for her records, which she did without any issue.

49. Stella acknowledged the fact that she was overwhelmed as essentially a single parent to 7 kids. She had one son who suffered seizures which required a lot of attention and care. The first time he had a seizure she wasn't sure what was happening and ran down the street to her mother's house. Her mom told her to put a spoon in his mouth so he would not bite his tongue off. Her son had seizures from about the ages of 3-6. He was given phenobarbital and treated at a hospital in Memphis, Tennessee. She had another son who had one seizure, but that was it. Her daughter, Lynn Coates, has advanced stage Lupus. She reported that sickle cell runs in the family and a couple of her siblings have died from it.
50. To deal with the stress of her life alone with the kids she gambled, playing bingo often. She relied on her older children to help feed the kids.
51. Mr. Lee was always looking to pick up side jobs. If someone needed their car to be detailed he would do it for a few dollars. He would clean anything.
52. Stella was not prepared by trial counsel to testify at Mr. Lee's trial. They did not meet with her beforehand to go over her testimony. She had no idea what they planned to ask her.
53. Lynn talked about how much she loved her brother. He had lived with her for a period of time. She indicated that he loved his children and always wanted to help his family.
54. Mr. Lee's ex-girlfriend also provided helpful information about Mr. Lee's functioning. She stated that they would argue about money. She liked to have bills paid on time, but Mr. Lee often paid their bills late. She had lived with Mr. Lee in Colorado when she was pregnant. He tried to find work, but was unsuccessful. She thinks they left after about three months. At that point she returned to her mother's house to have their daughter.
55. Mr. Lee met his ex-girlfriend in the neighborhood. She was renting an apartment not far from Stella's place. Mr. Lee often spent the night at her apartment. Sometimes he slept at home. He did not like living with his mom because she was "crazy." Stella would get upset with Mr. Lee for leaving the house. It was as if he could never do anything right.

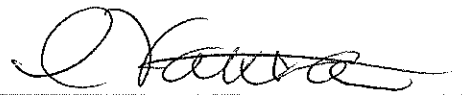
#### **ESSENTIAL TASKS FOR A DIAGNOSIS OF INTELLECTUAL DISABILITY AND FETAL ALCOHOL SPECTRUM DISORDER**

56. Even from these cursory interviews there is evidence of some adaptive functioning limitations, a history of family mental illness and disease, as well as experiences of living in extreme poverty, neglect, abuse and familial dysfunction. That none of this information was developed or presented to any fact-finder is extraordinary given the age of Mr. Lee's case and the number of counsel who have been appointed to represent him.

57. At a minimum, there needs to be interviews with people who have known Mr. Lee before he was 18 years old and observed his functioning. Having obtained only a few school records it would be possible to try and locate teachers or administrators to interview. Likewise, friends, family, and neighbors would all be able to provide information about deficits in Mr. Lee's daily living skills. The hallmark of Intellectual Disability is not a rigid IQ score, but significant deficits in everyday living skills. Although initial interviews with some family members and an ex-girlfriend indicate that Mr. Lee did have limitations, more information would be needed in order for an expert to provide an opinion. Through conversations with Mr. Lee and his family I have identified a number of friends and relatives who would be available to be interviewed.
58. In order for an expert to diagnose FASD there must be confirmation of maternal drinking during the time of the pregnancy. This is a really sensitive topic and one that will need to be corroborated by others beyond Mr. Lee, who could only say that his mother drank while pregnant with her other children.
59. There are also essential records that need to be collected, which I will request on April 17. These records include Stella's medical records, including anything related to Mr. Lee's birth; records from the juvenile detention facility Mr. Lee was sent to as a child; records from the diagnostic center where he was given at least two IQ tests; and his sister's education and medical records. Often intellectual disability and mental health issues are not confined to one member of a family so reviewing these additional materials are critical.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Signed on this 17<sup>th</sup> day of April, 2017.



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Elizabeth Vartkessian, Ph.D.

# Exhibit A

## CURRICULUM VITAE

**Elizabeth S. Vartkessian, Ph.D.**  
325 Taplow Rd.  
Baltimore, MD 21212  
Phone: (281) 217-0946 esv@advancechange.org

### EDUCATION

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- 2012 Ph.D. in Law (DPhil)  
University of Oxford, St. Hilda's College—Oxford, England
- 2004 M.S. in Comparative Social Policy (M.Sc.)  
University of Oxford, St. Antony's College—Oxford, England
- 2003 B.A., Political Science; B.A., Philosophy; Minor, Africana Studies, *Magna Cum Laude*  
George Washington University, Washington D.C.

### PROFESSIONAL EXPERIENCE

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2014-Present *Founding Executive Director*, Advancing Real Change, Inc. (ARC, Inc.), Baltimore, Maryland.  
ARC, Inc. seeks to transform the U.S. criminal justice system by bringing comprehensive and accurate life history investigation to inform the fates of individuals facing the most severe penalties. In addition to casework, ARC, Inc. provides training and consulting services to legal teams regarding the best practices of life history investigations.

In addition to working as a mitigation specialist additional tasks as the Executive Director include:

- Managing daily office operations of a staff of six.
- Providing direct supervision to all mitigation and records collection specialists.
- Engaging and reporting to the Governing Board of Directors.
- Overseeing office finances.
- Leading fundraising efforts.
- Engaging in collation building and community outreach.
- Providing training and consultation services to defender organizations and private bar attorneys.
- Licensed as a Private Detective in Maryland, number 101-24647.

2010-2014 *Mitigation Specialist*, private consulting services for death penalty and cases involving juvenile life sentences.

- Built a successful solo mitigation practice.

- Engaged in networking including identifying clients and marketing.
- Ran daily operations, including budgeting, invoicing, accounting, and collection of payments.
- Obtained a private investigator license in New York.
- Trained as a Defense Victim Outreach Liaison in death penalty cases.

2004-2010 *Mitigation Specialist*, The Gulf Region Advocacy Center, Houston, Texas.  
Life history investigator for death penalty cases at trial and post-conviction stages.  
Regular tasks included:

- Providing expert testimony regarding the standard of care for the development and presentation of mitigating evidence in death penalty cases.
- Interviewing the client for the purpose of preparing a social history.
- Identifying, locating, and interviewing family, friends, and other witnesses for the purpose of preparing a social history.
- Collecting and evaluating birth, medical, education, social welfare, employment, incarceration, military, and other records of clients and family members for the construction of a social history.
- Investigating and researching issues related to medical history; prenatal, pediatric and adult health; exposure to harmful substances *in utero* and in the environment; substance abuse history; mental health history; history of maltreatment and neglect; trauma history; educational history; employment and training history; military experience; multi-generational family history, genetic disorders and vulnerabilities, as well as multi-generational patterns of behavior; prior adult and juvenile correctional experience; religion, gender and sexual orientation; ethnic, racial, cultural and community influences; socio-economic, historical, and political factors.
- Working with the client's family, community, and clergy in the development of other favorable evidence for the client during the punishment phase.
- Analyzing information gathered in investigation to determine potential expert witness consultations.
- Writing memoranda analyzing the factual information obtained from witnesses and historical documents in light of the principles discerned from the professional literature.

#### **INVITED GUEST LECTURES, PRESENTATIONS, AND TRAINING SESSIONS**

- 2017 Texas Criminal Defense Lawyers. *Capital Defense College at the Center of American and International Law*. Plenary speaker "Trauma as a Mitigator". Plano, Texas. April 26 (confirmed).
- 2017 Habeas Assistance and Training Counsel Project: *Fourteenth Annual National Seminar on the Development and Integration of Mitigation Evidence*. "Basics of Case Organization and Tools of the Mitigation Trade". Baltimore, Maryland. April 7.

- 2017 Florida Defender Organization: Topic: “Compelling Narratives: Mitigation Themes and Theories” (by videoconference). March 24.
- 2017 Georgetown University, School of Law: *Capital Punishment*. Topic: the development of mitigation evidence in capital cases. Guest speaker. Washington D.C. March 23.
- 2017 Yale School of Management: *Yale Philanthropy Conference*. Invited panelist, “A Public Voice: Rethinking How Advocacy Supports Mission”. New Haven, Connecticut. February 24.
- 2017 Advancing Real Change, Inc.: *Baltimore Mitigation Training*. Curriculum coordinator and plenary session speaker, “Best Practices of Mitigation Investigation,” and “Forward-looking Mitigation”. Baltimore, Maryland. February 10-11.
- 2017 Yale School of Law: *Educational Opportunity and Juvenile Justice Clinic*. Topic: records collection and interviewing basics for mitigation development. Guest speaker. New Haven, Connecticut (by videoconference). January 31.
- 2016 Atlantic Center for Capital Representation: *Bring Your Own Case Training*. Faculty member and plenary session speaker, “Themes and Theories”. Lafayette Hill, Pennsylvania. December 15-17.
- 2016 Michigan State Appellate Defender: *Juvenile Life Mitigation Training*. Curriculum coordinator and plenary session speaker, “Best Practices of Mitigation Investigation”. Detroit, Michigan. December 8-9.
- 2016 Louisiana State Public Defender: *Bring Your Own Case Training*. Faculty member and plenary session speaker, “Walk a Mile in My Shoes: A Day in the Life of Your Client”. Baton Rouge, Louisiana. October 19-21.
- 2016 University of Baltimore, School of Law: *Capital Punishment*. Topic: the development of mitigation evidence in capital cases. Guest speaker. Baltimore, Maryland. April 25.
- 2015 Maryland Office of the Public Defender, *Summer Law Clerk Training*. Plenary session speaker, “Mitigation: The Heart of Criminal Defense”. Baltimore, Maryland. May 27.
- 2015 Habeas Assistance and Training Counsel Project: *Twelfth National Seminar on the Development and Integration of Mitigation Evidence*. “Basics of Case Organization and Tools of the Mitigation Trade”. Baltimore, Maryland. April 12.
- 2015 Arizona Capital Representation Project: *Bring Your Own Case Training*. Faculty member Phoenix, Arizona. April 1-3.



- 2015 University of Maryland, School of Law: *Social Work and Law*. Topic: social work assessments and sentencing determinations. Guest speaker. Baltimore, Maryland. March 30.
- 2015 Georgetown University, School of Law: *Capital Punishment*. Topic: the development of mitigation evidence in capital cases. Guest speaker. Washington D.C. March 19.
- 2015 Administrative Offices of the U.S. Courts: *Fourth Annual Capital Mitigation Skills Workshop*. Faculty member and plenary session speaker, “Basics of Case Organization and Tools of the Mitigation Trade”, Kansas City, Missouri. January 15-18.
- 2014 Atlantic Center for Capital Representation: *Bring Your Own Case Training*. Faculty member and plenary session speaker, “Themes and Theories”. Lafayette Hill, Pennsylvania. November 20-22.
- 2014 Arkansas Association of Criminal Defense Lawyers: *Death Penalty Conference*. Plenary session speaker, “Records Collection” and “What Matters to Capital Jurors”. Rogers, Arkansas. October 31-November 1.
- 2014 Oregon Capital Resource Center: Plenary session speaker, “Capital Jurors and Mitigation Evidence”. Gleneden Beach, Oregon. October 10-11.
- 2014 Florida Death Penalty Training Program: *Life Over Death*. Plenary session speaker, “What Matters to Capital Jurors”. Orlando, Florida. September 5.
- 2014 The Gulf Region Advocacy Center: *Bring Your Own Case Training*. Plenary session speaker, “Capital Jurors and Mitigation Evidence”; “Developing the Social History”; “Effective Team Work”. Faculty member. St. Louis, Missouri. August 15-17.
- 2014 Atlantic Center for Capital Representation: *Mitigation Skills Training*. Planner and faculty member. Philadelphia, Pennsylvania. August 8-9.
- 2014 University of Baltimore, School of Law: *Capital Punishment*. Topic: the development of mitigation evidence in capital cases. Guest speaker. Baltimore, Maryland. June 10.
- 2014 Maryland Office of the Public Defender, Summer Law Clerk Training. Plenary session speaker, “Mitigation: The Heart of Criminal Defense”. Baltimore, Maryland. May 28.

- 2014 Georgetown University, School of Law: *Capital Punishment*. Topic: the development of mitigation evidence in capital cases. Guest speaker. Washington D.C. February 27.
- 2013 The Gulf Region Advocacy Center: *Mitigation Skills Training*. Faculty member. Houston, Texas. November 20-22.
- 2013 Atlantic Center for Capital Representation: *Bring Your Own Case Training*. Faculty member. Lafayette Hill, Pennsylvania. September 25-28.
- 2013 University of Baltimore, School of Law: *Capital Punishment*. Topic: the development of mitigation evidence in capital cases. Guest speaker. Baltimore, Maryland. May 28.
- 2013 Oregon Capital Resource Center: Plenary session speaker, "Capital Jurors and Mental Health Mitigation Evidence". Portland, Oregon. April 19-21.
- 2013 University at Albany, School of Criminal Justice: *Qualitative Research Methods*: Topic: intensive interviewing techniques and conducting field research. Guest speaker. Albany, New York. January 22.
- 2012 University at Albany, School of Criminal Justice: *Law and Psychology*: Topic: the role of mitigation evidence in juror decision-making in capital cases. Guest speaker. Albany, New York. October 31.
- 2012 Idaho Federal Defenders Annual Training Seminar: Plenary session speaker, "Capital Jurors and Mitigation Evidence". Boise, Idaho. September 13.
- 2012 Habeas Assistance and Training Counsel Project: Ninth National Seminar on the Development and Integration of Mitigation Evidence. Plenary session speaker, "Capital Jurors and Mitigation Evidence". Atlanta, Georgia. April 28.
- 2008 Reprieve U.K. *Death Penalty Investigators Training*. Faculty member. London, England. March 29-30.
- 2007 Reprieve U.K. *Death Penalty Investigators Training*. Faculty member. London, England. April 21.
- 2007 National Consortium for Capital Defense Training funded by the Bureau of Justice Assistance: *Capital Defense Mitigation Issues*. Faculty member. Plano, Texas. March 23-24.
- 2007 The Gulf Region Advocacy Center: *Mitigation Skills Training*. Faculty member. Houston, Texas. January 19-21.
- 2006 Texas Criminal Defense Lawyers Association: *Mitigation Training*. Faculty

member. Dallas, Texas. April 20-21.

2005 Capital Unit of the Oklahoma City Public Defenders Office: *Conducting Mitigation Investigation*. Faculty member. Oklahoma City, Oklahoma. September 20-23.

#### **PROFESSIONAL TRAININGS AND CONFERENCES ATTENDED**

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- 2015 Post-2255 Litigation and Advocacy, Federal Capital Habeas Project Training Conference. Philadelphia, Pennsylvania, July 21-22.
- 2015 NAACP Legal Defense Fund, Inc. 35<sup>th</sup> Annual Capital Punishment Training Conference. Warrenton, Virginia. July 9-12.
- 2014 Defense Initiated Victim Outreach Training, sponsored by the Administrative Offices of the U.S. Courts. Santa Clara, California. September 15-19. (by application).
- 2014 NAACP Legal Defense Fund, Inc. 35<sup>th</sup> Annual Capital Punishment Training Conference. Warrenton, Virginia. July 17-20.
- 2014 Eleventh National Seminar on the Development and Integration of Mitigation Evidence in Capital Cases sponsored by the Administrative Offices of the U.S. Courts. Philadelphia, Pennsylvania. March 27-30.
- 2013 Eighteenth Annual National Federal Habeas Corpus Seminar sponsored by the Administrative Offices of the U.S. Courts. Cleveland, Ohio. August 15-18.
- 2013 NAACP Legal Defense Fund, Inc. 34<sup>th</sup> Annual Capital Punishment Training Conference. Warrenton, Virginia. July 11-14.
- 2013 Tenth National Seminar on the Development and Integration of Mitigation Evidence in Capital Cases sponsored by the Administrative Offices of the U.S. Courts. Baltimore, Maryland. April 4-7.
- 2011 Law and Society Annual Meeting, San Francisco, California. June 2-5.
- 2011 Vermont Law School Symposium, New Perspectives on Capital Punishment, South Royalton, Vermont. February 11.
- 2009 NAACP Legal Defense Fund, Inc. 30<sup>th</sup> Annual Capital Punishment Training Conference. Warrenton, Virginia. July 9-12.
- 2008 Law and Society Annual Meeting, Montreal, Quebec. May 29-June 1.

- 2006 Mitigation Seminar sponsored by the Habeas Assistance and Training Counsel: The Development and Integration of Mitigation Evidence in Capital Cases. Washington D.C. April 27-30.
- 2006 Third National Forensics Seminar sponsored by The Habeas Assistance and Training Counsel. San Antonio, Texas. January 26-29.
- 2006 National Consortium for Capital Defense Training funded by the Bureau of Justice Assistance. Plano, Texas. January 11-14.
- 2005 National Association of Criminal Defense Lawyers Death Penalty Seminar. Oklahoma City, Oklahoma. September 30-October 2.
- 2005 A Fighting Chance: Themes and Theories of Mitigation Investigation. New Orleans, Louisiana. June 1-3.
- 2005 Records collection, Juror and Witness Interviews and Legal Aspects of Investigative Work. Houston, Texas. April 12-14.
- 2005 National Legal Aid and Defender Association: Life in the Balance. New Orleans, Louisiana. March 18-22.
- 2005 Capital and Mental Health Seminar. Houston, Texas. February 23-25.

#### **ACADEMIC POSITIONS**

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- 2013-present *Research Fellow*, School of Criminal Justice, University at Albany
- 2012-2013 *Adjunct Professor*, School of Criminal Justice, University at Albany  
Introduction to Criminal Justice Processes
- 2010-2011 *Discussion Leader*, School of Criminal Justice, University at Albany  
Introduction to Criminal Justice Processes  
Introduction to Criminology

#### **PUBLICATIONS**

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- Under review Riner, Robin and Elizabeth S. Vartkessian. "Showing Humanity: How Defense Attorneys Use Mitigation Narratives to Advocate for Clients" in *Language & Social Justice: Case Studies on Communication & the Creation of Just Societies* (Invited chapter in edited volume).
- 2017 Sandys, Marla, Elizabeth S. Vartkessian, Heather Pruss, and Sarah Walsh, "Setting the Stage and Listening to What Jurors Have to Tell Us About Mitigation" in Edward Monahan and Jim Clark (Eds.) *Mitigation in Capital*

*Cases: Understanding and Communicating the Life Story. American Bar Association.*

- 2014 Vartkessian, Elizabeth S., Jonathan Sorenson, and Christopher E. Kelly. "Tinkering with the Machinery of Death: Juror Decision-Making in Texas Death Penalty Trials During Two Statutory Eras" *Justice Quarterly* (ahead-of-print), 1-24.
- 2014 Bowers, William, Christopher E. Kelly, Ross Kleinstuber, Elizabeth S. Vartkessian, and Marla Sandys. "The Life or Death Sentencing Decision: It's at Odds with Constitutional Standards, Is it Beyond Human Ability?" in James R. Acker, Robert M. Bohm, and Charles S. Lanier (Eds.) *America's Experiment with Capital Punishment*. Carolina Academic Press.
- 2012 Vartkessian, Elizabeth S. "What One Hand Giveth, the Other Taketh Away: How Future Dangerousness Corrupts Guilt Verdicts and Produces Premature Punishment Decisions in Capital Cases." *Pace Law Review*. 32: 447-543.
- 2011 Vartkessian, Elizabeth S. and Jared P. Tyler. "Legal and Social Exoneration: The Consequences of Michael Toney's Wrongful Conviction." *Albany Law Review*. 75: 1467-1498.
- 2011 Vartkessian, Elizabeth S. "Dangerously Biased: How the Texas Capital Sentencing Statute Encourages Jurors to be Unreceptive to Mitigation Evidence." *Quinnipiac Law Review*. 29: 237-288.

**WORKS IN PROGRESS**

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Vartkessian, Elizabeth S. "Capital Jurors and the Death Penalty" (Book manuscript. Drafting)

**RESEARCH INTERESTS**

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Capital Punishment  
Sentencing  
Juror and Jury Decision-Making  
Wrongful Convictions  
Victimology  
Policy Reform  
Qualitative Research Methods

**RESEARCH EXPERIENCE**

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2010-2013 *Visiting Researcher*, School of Criminal Justice, University at Albany, State University of New York  
Capital Jury Project

2008-2010 *Primary Investigator*, Research Foundation of the State University of New York, Hindelang Criminal Justice Research Center  
Capital Jury Project, Texas data collection

#### **SCHOLARSHIPS, GRANTS, AND AWARDS**

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2015 J.M. Kaplan Social Innovation Prize Awardee (private foundation grant to support the work of ARC, Inc.)

2014 Research Affinity Group (private foundation grant)

2010 Research Affinity Group (private foundation grant)

2009 Criminology Department, Oxford University (partial tuition)

2009-2008 St. Hilda's Graduate Student Scholarship (partial tuition)

2008 Alpha Delta Pi Foundation (academic, philanthropic, and social society grant)

2008 Law and Society Graduate Students Workshop Grant

1999-2003 George Washington University's Presidential Scholarship

#### **ACADEMIC PAPERS PRESENTED**

---

2017 Vartkessian, Elizabeth S., Paper entitled "Mitigation's Role in Criminal Defense" Legal Services for the Indigent: Social Work, Mitigation, and Holistic Defense, The American Society of Criminology, Philadelphia, Pennsylvania (confirmed panelist).

2017 Vartkessian, Elizabeth S., Paper entitled "*Capital Juror's Response to Mental Health Evidence: Context Matters Most*" International Academy of Law and Mental Health, Prague, Czech Republic (invited panelist, confirmed).

2013 Vartkessian, Elizabeth S. and Christopher E. Kelly, Paper entitled "*Capital Improvements? Juror Decision-Making in Texas Death Penalty Trials Before and After Penry v. Lynaugh*" Law and Society Association, Boston, Massachusetts.

2011 Acker, Jim, William J. Bowers, Andrew L.B. Davies, Elizabeth S. Vartkessian, and Kay Lang, Paper entitled "*Families and Friends of Homicide Victims: Violent Bereavement and Adaptation*" The American Society of Criminology, Washington D.C.

2011 Vartkessian, Elizabeth S., Paper entitled "*What One Hand Giveth, the Other Taketh Away: How Future Dangerousness Corrupts Guilt Verdicts and Produces*

*Premature Punishment Decisions in Capital Cases*” School of Criminal Justice, University at Albany.

- 2011 Bowers, William J., Wanda Foglia, Elizabeth S. Vartkessian, Marla Sandys, and Christopher E. Kelly, Paper entitled “*The Receptivity of Courts to Empirical Evidence of How Jurors Decide Death Penalty Cases: The Capital Jury Project (CJP) as a Case Study*” Michigan State Law School Symposium, East Lansing, Michigan.
- 2010 Vartkessian, Elizabeth S., Paper entitled “*Fatal distraction: Does the Texas capital sentencing statute discourage the consideration of mitigating evidence?*” Law and Society Annual Meeting, Chicago, Illinois.
- 2009 Vartkessian, Elizabeth S., Paper entitled “*Persuasive Mitigation Evidence in Texas Capital Cases*” Law and Society Annual Meeting, Denver, Colorado.
- 2008 Vartkessian, Elizabeth S., Paper entitled “*Making the Case for Life: Patterns of Successful Mitigation Evidence Presented to Capital Juries in Texas*” St. Hilda’s College, Oxford University.

#### **BOARD MEMBERSHIPS**

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- 2008-Present Governing Board of the Gulf Region Advocacy Center  
A non-profit law office committed to providing quality defense services to indigent defendants facing capital charges primarily in Texas and throughout the south.

# Exhibit B



matilda buchanan

From: <swbraden@comcast.net>  
 To: "matilda buchanan" <matildab@msn.com>  
 Sent: Thursday, June 07, 2007 10:26 AM  
 Subject: Re: legal question

The opt in provisions of the habeas statute is the real boogie man of habeas corpus. Basically if a state does certain things like provide for counsel at trial and at post conviction, make rules and standards for appointment, pay them etc and have a well operating system of appointment and so forth then the opt in provisions apply which make shorter time periods for filing habeas corpus petitions and requiring the federal court to move faster on making decisions etc. The major issue is 1) who decides if a state has set up a properly operating system of appointment and payment 2) and how do you know when it applies to you. Not too long again a provision in some terrorism bill said the person to decide this is the U.S. Attorney General, in other words the U.S. A.G. is the one to decide if Arkansas meets the criteria of providing qualified counsel paying them etc. Recently (yesterday in fact) the U.S. A.G. published some rules for how to go about this which basically boils down to any state that applies will be certified as an opt in state. This is a huge issue in Lee because even though in his case he had lawyers that were appointed and paid etc the lawyer was not qualified. The Ark Supreme Court talks about this in the 2006 opinion granting a new post conviction. They make no bones about saying we want to be an opt in state so we can kill people faster. Some states like Oklahoma for instance dont really worry about the opt in stuff because they are getting to have executions regularly and the opt in requirements in theory anyway would cost the state lots of extra money in lawyer fees and so forth.

I will gladly have lunch with you about this any time. I think all will be ok. The whole Judge Piazza thing seems to have blown over. But we can talk about it anytime you want. I am free Mon and Tues. next week.  
 Scott

----- Original message -----

From: "matilda buchanan" <matildab@msn.com>  
 Dear Scott,

I know you're not running an email law school, but I've got a question that I hope you can help me with. What is the "op-in" rule in regard to Federal *habeas corpus*? This seems to be taking up a lot of angst between the state and the def in the rule 37 hearing transcript.

I may need to take you to a fancy lunch place to pick your brain about the pitfalls of this case. I just read where the def attorney was turned down by six investigators including one that I think is the single most unethical p. I. I've ever run across. All refused because they were afraid of going up against the state and Judge Piazza. What have I gotten myself into?

Matilda

# EXHIBIT C

**Matilda Buchanan, Legal Assistance and Investigations**  
 2212 Gaines  
 Little Rock, AR 72206  
 Phone: 501-375-7794; Fax 501-375-2007  
 matildab@msri.com

**Invoice**

June 1, 2007

Ref:

**Ledell LEE, Appellant**  
 v.  
**STATE of Arkansas, Apellee**  
**No. CR 99-1116**

Mail to:  
 Didi H. Sallings  
 Arkansas Public Defender Commission  
 101 E. Capitol Ave, suite 201  
 Little Rock, AR 72201

Gerald A. Coleman, attorney  
 Durrett and Coleman  
 105 North Avalon  
 P. O. Box 1667  
 West Memphis, AR 72303

Date	Description	Hours
May 14	Email to and from G. Coleman. Phone conf. G. Coleman setting meeting for Monday, May 21	0.25
May 18	Research public library and online. Downloaded and printed news articles relating to L. Lee from 1988-2007 (total of 30 articles)..	2.50
May 20	Meeting with Coleman to obtain file on previous rule 37 hearing	0.25
	evaluate news articles and begin work on rule 37 transcript	2.00
May 21	phon conf. G. Coleman	0.25
	Copy and organize rule 37 transcript (see attached expense documentation)	1.00
	Conf. G. Coleman; discuss history of Lee cases and possible strategies. Drive to Varner to interview L. Lee. On return trip evaluate L. Lee's ideas for case and discuss possible leads to investigate	5.50
May 22	Westlaw search and print on related Supreme Court decisions. Read rule 37 transcript. Organize notes from meetings with Coleman and Lee. Write Coleman to clarify investigation strategy and tactics.	2.50

total hours for May 2007
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14.25
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**Rate per hours = 50.00    Total amount for time    \$712.50**

**total expenses May 2007    \$77.14**

**amount due    \$789.64**

**Make all checks payable to:**

**Matlida Buchanan, Legal Assistance and Investigation  
2212 Gaines  
Little Rock, AR 72206**

## DECLARATION OF DALE G. WATSON

I, Dale G. Watson, Ph.D., declare as follows:

1. I am licensed to practice psychology in California. I specialize in clinical and forensic neuropsychology. I am a member of the American Psychological Association (APA) and subdivisions of that organization including Division 33 (Intellectual and Developmental Disabilities), Division 40 (Society for Clinical Neuropsychology), and Division 41 (American Psychology – Law Society). I am also a member of the International Neuropsychological Society (INS), the National Academy of Neuropsychology (NAN), the International Society for Intelligence Research (ISIR), the American Association on Intellectual and Developmental Disabilities (AAIDD), and the Society of Personality Assessment (SPA).
2. I received my Bachelor of Arts degree, with a major in psychology, from California State College, Sonoma in 1975. I received my Master of Arts degree in Clinical Psychology from John F. Kennedy University in Orinda, California in 1980. In 1988, I earned a Ph.D. in Clinical Psychology from the California School of Professional Psychology (CSPP) in Berkeley, California. CSPP was accredited by the APA and is now a school within Alliant International University with a campus in San Francisco, California.
3. I have been in private practice in the Bay Area of California since 1990. In addition, I am an adjunct faculty member at the Wright Institute, an APA accredited institution in Berkeley, California, where I teach a 3-trimester course in

Graduate Level Psychodiagnostic Assessment focusing on intellectual, academic and psychological evaluation. This course covers the broad array of psychological assessment instruments utilized within the field of assessment and includes modules on the assessment of intellectual functioning, academic skills, and personality assessment.

4. In California, I have given expert testimony in the Superior Courts of Alameda, Contra Costa, Fresno, Los Angeles, Marin, Monterey, Riverside, Sacramento, San Mateo, Santa Clara, San Francisco, and Shasta Counties. I have also qualified and testified as an expert in Maricopa County, Arizona; Howard County, Arkansas; Butts county, Georgia; Latah County, Idaho; Caddo Parish, Louisiana; Custer County, Montana; Anderson County, South Carolina; Harris County, Texas; York County, Virginia; and King and Whatcom Counties in Washington. I have qualified and testified in United States District Courts of Arkansas, California, Montana, Oklahoma, and Tennessee. From the early 1990s until 2003, I was on the panel of forensic examiners for the Superior Court in Contra Costa County, California. In that role, I regularly examined criminal defendants referred by the court for the evaluation of competency to stand trial and insanity. I have also completed several “*Atkins*” evaluations assessing intellectual disabilities in my role as a forensic neuropsychologist. I assessed Darryl Atkins, the defendant in *Atkins v. Virginia*, after the U.S. Supreme Court found it a violation of the constitution to execute the intellectually disabled. I also assessed Anderson Hawthorne and authored the declaration filed with the state habeas petition that

resulted in the California Supreme Court's decision allowing for evidentiary hearings in state habeas proceedings upon a prima facie showing of intellectual disability. Over the course of my career I have evaluated several hundred capital appellants.

5. I previously served as a Consulting Neuropsychologist to Neurobehavioral Cognitive Services (NCS) of Dixon, California, a residential/outpatient brain-injury rehabilitation program, between 2000 and 2015. In that role, I was involved in the evaluation of individuals with moderate to severe brain injuries resulting from trauma, stroke, and other neuropathological processes.
6. I was a Clinical Neuropsychologist for NeuroCare in Concord, California from 1989 to 1992. In that role, I conducted neuropsychological evaluations, and was involved in post-acute rehabilitation of the brain-injured, treatment planning, psychotherapy for individual, couples, and groups, substance abuse treatment, cognitive rehabilitation and crisis intervention. From 1986 to 1989, I was on staff at Specialized Rehabilitation Services in Fremont, California. In that capacity, I coordinated the Treatment Team for the Brain Injury Rehabilitation Program (1986-87), and conducted case management, patient education, and individual and group psychotherapy for the Chronic Pain Management Program.
7. I have given numerous presentations throughout my career to professional, academic, and legal organizations. Topics of my presentations have included the neuropsychology of mental retardation and other intellectual disabilities, the neuropsychology of schizophrenia, neuropsychological assessment and brain

impairment, brain functions including executive functioning, the roles of psychology and neuropsychology in forensic evaluations, the impact of norms on neuropsychological evaluation, and the teaching of psychological assessment.

8. I am the author of a chapter entitled “Intelligence Testing,” which was included in the recent publication of the American Association on Intellectual and Developmental Disabilities (AAIDD), *The Death Penalty and Intellectual Disability*, edited by Edward A. Polloway (2015).<sup>1</sup>
9. Neuropsychology is the study of the relationship between brain functions and behavior. The discipline of neuropsychology is fully accepted by the relevant professional communities as providing information for the evaluation, description, and diagnosis of brain-related conditions affecting cognition, sensory-motor functioning, memory, language, auditory processing, intelligence, and executive functions. Neuropsychologists commonly utilize batteries of tests to provide information relevant to questions of behavioral functioning.
10. My curriculum vita is attached to this declaration as Appendix 1 and test results are found in Appendix 2.

#### **Evaluation of Ledell Lee, Jr.**

11. At the request of defense counsel Cassandra Stubbs, I examined Ledell Lee, Jr. at the Varner Correctional Facility on April 13, 2017 and April 14, 2017. I conducted a clinical interview and two full days of neuropsychological testing.

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<sup>1</sup> Watson, D. G. (2015). Intelligence testing. In E. A. Polloway (Ed.), *The death penalty and intellectual disability* (pp. 113-140). Washington, DC: AAIDD.



12. I also have reviewed the declaration from the mitigation specialist Elizabeth Vartkessian, Ph.D. and have relied upon the information contained in that affidavit for additional social history information. I have not reviewed a number of documents that would provide relevant information to my opinions, including Mr. Lee's medical records, school records, and records from incarceration. Counsel have informed me that they are new on the case and that these records were not previously collected. In the event counsel can obtain these records, I will consider and weigh those records in evaluating my opinions. As explained below, I believe these records would be extremely valuable in evaluating adaptive deficits and to an ultimate determination of intellectual disability.

13. Mr. Lee put forth excellent effort throughout our testing. I administered both stand alone and embedded measures of performance validity and Mr. Lee's performance is judged to be valid.

14. The battery of tests administered to Mr. Lee included the following:

- Behavioral Observations
- Mental Status Examination
- Advanced Clinical Solutions for the WAIS-IV and WMS-IV Social Cognition Test (ACS SCT)
- Aphasia Screening Test (AST)
- Auditory Consonant Trigrams (ACT)
- b Test (bT)
- Boston Naming Test (BNT)
- BRIEF-A (BRIEF)
- Brown Location Test (BLT)
- California Verbal Learning Test-II (CVLT-II)
- Conners' Continuous Performance Test – III (CPT-III)
- Dichotic Word Listening Test (DWLT)
- Digit Vigilance Test (DVT)

- D-KEFS Design Fluency Test (D-KEFS DFT)
- D-KEFS Tower Test (D-KEFS TWR)
- D-KEFS Proverb Test (D-KEFS PT)
- D-KEFS Twenty Questions Test (D-KEFS TQT)
- D-KEFS Verbal Fluency Test (D-KEFS VFT)
- Finger Tapping Test (FTT)
- Forced Choice Test (FCT)
- Green's Medical Symptom Validity Test (MSVT)
- Grip Strength (GS)
- Grooved Pegboard Test (GPT)
- Halstead Category Test (HCT)
- Iowa Gambling Task (IGT)
- Judgment of Line Orientation (JOLO)
- Lateral Dominance Exam (LDE)
- National American Adult Reading Test (NAART)
- Neuropsychological Assessment Battery (NAB) Mazes Test (MAZ)
- One Minute Estimation (OME)
- Rey Auditory Verbal Learning Test (RAVLT)
- Rey Complex Figure Test (RCFT)
- Ruff-Light Trail Learning Test (RULIT)
- Seashore Rhythm Test (SRT)
- Sensory-Perceptual Examination (SPE)
- Sentence Repetition (SR)
- Speech Sounds Perception Test (SSPT)
- Tactile Form Recognition Test (TFRT)
- Tactual Performance Test (TPT)
- Test of Memory Malingering (TOMM)
- Texas Functional Living Scale (TFLS)
- Token Test (TT)
- Trail Making Test A & B (TMT)
- Wechsler Adult Intelligence Scale - IV (WAIS-IV)
- Wechsler Memory Scale – IV Flexible Approach (WMS-IV)
- Wide Range Achievement Test - 4 (WRAT-4)
- Wisconsin Card Sorting Test (WCST)

15. Mr. Lee's intellectual abilities were assessed using the Wechsler Adult

Intelligence Scale, Fourth Edition (WAIS-IV). His performance on the WAIS-IV

falls within the Low Average to Borderline range of intelligence. Nonetheless, his

performance raises the possibility that he has a Mild Intellectual Disability. His Full Scale IQ (FSIQ), a measure of general intellectual ability, was 82, but is most appropriately represented as a score of 79, taking into account the Flynn Effect.<sup>2</sup> The latter score places his measured intellectual ability in the range between 75 and 83 and at the 8<sup>th</sup> percentile rank. This finding is somewhat above the 2<sup>nd</sup> to 4<sup>th</sup> percentile ranks usually associated with a diagnosis of Intellectual Disability. However, with the advent of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), confirmed by the United States Supreme Court in *Hall v. Florida*, 572 U.S. \_\_\_\_ (2014), there has been a shift from emphasizing IQ to the role of adaptive functioning in making the diagnosis. This necessitates a complete and thorough examination of Mr. Lee's adaptive functioning. Furthermore, given that IQ scores can change over time, additional investigation into intellectual and adaptive deficits is necessary in order to evaluate the presence of intellectual disability.

16. The evaluation of intellectual functioning provides the context for a more detailed analysis of his neurocognitive functioning. On the WAIS-IV, Mr. Lee's General Ability Index (GAI) was 79 (Flynn-corrected to 76 and at the 5<sup>th</sup> percentile). The GAI assesses his core intellectual capacities without the impact of either working memory or processing speed, both of which fell within the Average range (Working Memory Index (WMI) = 92 / 30<sup>th</sup> percentile rank; Processing Speed

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<sup>2</sup> The Flynn Effect relates to the phenomenon of the inflation of IQ scores as a test's norms become increasingly obsolete. The WAIS-IV was normed in 2007 requiring an adjustment downward of Mr. Lee's FSIQ of 3 points, equaling an FSIQ of 79.

Index (PSI) = 92 / 30<sup>th</sup> percentile rank). In contrast, his verbal capacities fell in the Low Average range (Verbal Comprehension Index (VCI) = 87). More strikingly, his non-verbal intellectual abilities fell in the Borderline range (Perceptual Reasoning Index = 75 / 5<sup>th</sup> percentile rank / 95% Confidence Interval (CI) = 70 – 82). This part score falls in the range of Intellectual Disability absent any Flynn correction.

17. The pattern of WAIS-IV IQ scores was relevant to the nature of Mr. Lee's neurocognitive dysfunction. The difference between the VCI and the PRI of 12 points was significant and initially raises the question of greater right versus left hemisphere dysfunction. It is apparent that he has deficits in fluid or "on the spot" reasoning and visual processing with relatively intact verbal functions such as vocabulary. Were someone to rely solely on assessing Mr. Lee's vocabulary to understand his neurocognitive abilities, they would entirely miss the nature of his brain dysfunction.
18. Neuropsychological assessment revealed Mr. Lee to have significant and serious deficits in academic skills, memory abilities, motor functions, social cognition, and executive functions. The findings are indicative of diffuse brain dysfunction, worse in the right hemisphere, with particular evidence of frontal-striatal and temporal lobe dysfunction. The temporal lobes are responsible for an array of cognitive tasks most notably including language and memory. The frontal-striatal system is involved in executive processes, active learning and recall, and making tasks routine.

### **Academic Functioning**

19. Mr. Lee's academic skills are somewhat limited, though generally consistent with his educational attainment. He could sight read at the 8.6 grade level, comprehend at the 9.7 grade level, and perform math at only the 5.9 grade level. His performance does fall over one standard deviation below the mean – and this finding is relevant to a diagnosis of Fetal Alcohol Spectrum Disorder (FASD) as discussed below.

### **Memory Functioning**

20. Mr. Lee has striking deficits in both verbal and non-verbal memory and learning.

21. Verbal recall was assessed with list-learning measures and paragraph length verbal recall measures including the Rey Auditory Verbal Learning Test (RAVLT), the California Verbal Learning Test, Second Edition (CVLT-ii), and the Logical Memory scales from the Wechsler Memory Scale, Fourth Edition, Flexible Approach (WMS-IV).

22. The results of the RAVLT are illustrative of his deficits in verbal learning and recall. This task required him to learn a list of 15 words presented five times. He initially recalled five words – an average performance and one reflecting adequate auditory attention. Subsequently he recalled 7, 6, 9, and 7 words over the next four trials. This performance reflects poor learning capacity. Over the course of the next four trials following his initial recall, he essentially acquired only two additional words. Following a distractor, he could only recall five of these same 15 words – a performance indicative of moderate memory impairment and falling at

only the 4<sup>th</sup> percentile rank. Some 30 minutes later he could only recall four of the words. Notably, on a recognition task, where he was asked if a number of words were on the list he had learned, he could recognize eight of the words – though this is still moderately to severely impaired and fell at only the 0.1 percentile rank. Moreover, his recall was vulnerable to intrusion errors such that he falsely recalled six words that were not actually on the list – a reflection of “source memory” deficits, a marker of frontal lobe dysfunction. This latter performance reflected severe impairment, falling at only the 0.01 percentile rank. This pattern of performance not only represents dysfunction of the left hippocampal/medial temporal lobe memory system but of the frontal-striatal executive memory system as well.<sup>3</sup> He has difficulty learning new verbal information, storing that information, and retrieving that information.

23. Mr. Lee demonstrated equal, if not greater, impairment on measures of visual recall. These measures included the Rey Complex Figure Test (CFT), the Brown Location Test (BLT), the Ruff-Light Trail Learning Test (RULIT), and the Visual Reproduction subtests of the WMS-IV.

24. Mr. Lee’s performance on the Rey Complex Figure Test illuminated marked memory retrieval deficits and a striking failure of executive functions to organize

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<sup>3</sup> Koziol and Budding (2009) have specifically addressed this pattern of performance and indicated it is a feature of dysfunction within the frontal-striatal system rather than the hippocampal/temporal lobe system (Koziol, L. F., & Budding, D. E. (2009). *Subcortical structures and cognition: Implications for neuropsychological assessment*. New York: Springer, p. 229.) They wrote, in similar cases, “there is an obvious disparity between limited response production on voluntary recall trials and completely intact recognition.... There is very good retention but very poor self-activation that results in limited voluntary access” (p. 229). They further noted, “a shallow but incremental learning slope ... implicates frontal systems” (p. 230).

his behavior. To begin with, Mr. Lee's copy of a complex figure was marred by a disorganized, piecemeal approach to the task. Rather than taking a gestalt approach to the task, he instead focused on details such that when finished his drawing had several significant distortions. His copy score, reflecting visual spatial capacities, fell at only the 0.01 percentile rank and was classified as severely impaired. Just a few minutes later, his drawing from memory performance was markedly simplified and even more distorted. Approximately 30 minutes later it had even less relationship to the original figure and was marred by perseverative repetitions of a particular design element. On each of these recall tasks his performance fell at below the 1<sup>st</sup> percentile rank and was severely impaired. However, on recognition testing his performance improved somewhat, to the 2<sup>nd</sup> percentile rank – reflecting moderate impairment. At that point, I performed a procedure to test the limits of his impairment – I showed him how to draw the figure using a gestalt approach. Now, when he copied the figure it was more organized and his recall three minutes later had improved substantially – to the Below Average range (Immediate Recall after demonstration = 44t / 27<sup>th</sup> percentile rank). This procedure demonstrated that Mr. Lee's recall of visual information is particularly poor by, once again, a failure of the fronto-striatal executive memory system, this time of the right hemisphere.

25. Similar failures to learn visual information were seen on a measure of spatial recall (Brown Location Test Trials 1 – 5 Free Recall Total = -2.46z / 0.6 percentile

rank). Likewise, his ability to learn a visual trail over multiple trials was impaired (RULIT Total Correct Trials 2-10 = 33t / 5<sup>th</sup> percentile rank).

### **Sensory and Motor Functions**

26. Comparing the performance of an individual on their right and left sides is a technique borrowed from neurology. On sensory and motor measures, there are known relationships of performance on tasks of the right and left sides. These comparisons can assist in identifying lateralized brain damage to either the left or right hemispheres of the brain. As is well known, the left hemisphere of the brain controls motor and sensory functions on the right side of the body and vice versa.
27. Though Mr. Lee performed reasonably well on measures of fine motor speed (Finger Tapping) and control (Grooved Pegboard Test) he demonstrated lateralized dysfunction on the Tactual Performance Test (TPT). The TPT is a measure of complex visual spatial problem solving tapping into the mapping capacities of the posterior regions of the brain as well as the planning capacities of the frontal regions. The task required Mr. Lee to place puzzle pieces in a form-board, while blind-folded, first with his right hand, then his left, and finally with both together. Most individuals with intact capacities can place the 10 pieces into the board with their dominant hand in about 6 to 7 minutes. They then will cut their time with their non-dominant hand by about a third to 4 to 5 minutes. Finally, they can reduce their time by one third again with both hands. Mr. Lee initially placed the 10 blocks in the board with his right hand in 7'38" – an adequate performance. However, with his left hand he required 10'33" – fully three minutes



slower than with his right hand. He then required 6'07' with both hands together, barely improving on his right hand performance and suggesting that the left slowed even this performance. The pattern of performance between the right and left hands likely reflects lateralized impairment of the right hemisphere – consistent with the IQ findings and the more severely impaired visual memory functioning. This pattern was similarly reinforced on the Tactile Form Recognition Test which also showed lateralized dysfunction impacting the right hemisphere.

### **Executive Functioning**

28. Executive functions are brain-related cognitive processes that control planning, generating hypotheses, cognitive flexibility, initiating activity, organization, decision-making and problem solving, judgment, inhibition and regulation of behavior, and utilizing feedback to change a behavior or response. The importance of executive functions in activities of daily living is well recognized. Individuals with executive dysfunction tend to become stuck in “mental ruts” - demonstrating perseverative behaviors that involve the continuance of behaviors beyond their relevance. In contrast, cognitive flexibility, or the ability to shift sets, is required any time an individual attempts to solve a problem using multiple pieces of information. The individual must incorporate feedback concerning the effect of each piece of information and then consider how the new information affects subsequent choices or behavior. The process is dynamic in that it requires continuous evaluation and incorporation of new information. Executive functions are necessary to plan and organize behavior, reason abstractly, and perceive

accurately and respond appropriately to social expectations; they are required for effective and environmentally appropriate behavior. The frontal lobes of the brain are largely responsible for these functions.

29. Mr. Lee demonstrated both strengths and weaknesses in this domain. He had notable strengths in verbal abilities with profound deficits in non-verbal executive functions – consistent with some degree of lateralized brain dysfunction, worse within the right hemisphere. For example, he was readily able to generate words beginning with either a specified letter or a specified category. These abilities are putatively the result of left hemisphere processes. In contrast, he was severely impaired on measures of visual problem solving.

30. Mr. Lee demonstrated a remarkable failure to learn and problem solve on a card-sorting test requiring conceptual thinking. The *Wisconsin Card Sorting Test* (*WCST*) requires an individual to match cards from a deck of cards to one of four “key” cards – based upon the color, shape, or number of design elements on the card. For example, a card might have four blue circles on it, which might be matched to a key card with two blue crosses – sorting to color. Each time a choice is made the person is told whether they are correct or incorrect and in this way, most people learn to do the task and typically can complete six different sorting rules (e.g., color, shape, or number completed twice) in fewer than 128 cards.

31. Mr. Lee’s performance on the *WCST* was profoundly impaired. He did not complete any of the expected six categorical sorts and was “on target” only 9 percent of the time – a performance falling at only the 1<sup>st</sup> percentile rank of the

population. Though his errors on the WCST included perseverative responses, his difficulties appeared principally to be due to a conceptual failure. Of the 128 cards, he was correct on only 40 of them. This level of performance represents a marked inability to reason and analyze in novel problem solving situations and reflects a degree of confusion that is likely to impact his independent functioning.

32. On a measure of visual planning under timed conditions, Mr. Lee was mildly impaired with a performance falling just beyond 1 standard deviation below the mean (NAB Mazes test = 39t / 14<sup>th</sup> %ile).
33. Though Mr. Lee performed well on several measures from the Delis-Kaplan Executive Function System (D-KEFS), he did, nonetheless demonstrate mild deficits in set switching on the Design Fluency Test (Condition 3 Switching: Total Correct = 6SS / 10<sup>th</sup> %ile).
34. Finally, on another visual reasoning task assessing abstraction, concept formation, and flexible thinking when confronted with novel and complex tasks requiring analysis, he performed well below expectations and in the Mildly to Moderately Impaired range (Halstead Category Test = 99 errors / SS = 4 / 2<sup>nd</sup> %ile). This task required the capacity to discern the most salient aspects of a problem-situation, to devise a solution/approach, monitor the effectiveness of the approach when given feedback as to its accuracy, and adapt the approach as needed to reach an accurate solution. This task is a general measure of neuropsychological integrity sensitive to impairment in many regions of the brain.

35. It is apparent from the above that Mr. Lee has clear and consistent findings of impaired executive functioning impacting non-verbal abilities.

#### **SOCIAL COGNITION**

36. Social cognition is the capacity to understand social communications and intention by interpreting facial expressions and the use of intonation and prosody in speech to convey emotion. Importantly, "...affect recognition and face processing abilities are primary to understanding deficits in social functioning commonly observed in individuals with developmental, neuropsychiatric, and neurological disorders."<sup>4</sup> Deficits in social cognition commonly result in impairment in understanding and coping with the complexities of relationships and daily functioning.

37. On the *ACS Social Cognition Test*, Mr. Lee demonstrated a mixed pattern of intact and impaired social perception skills. He struggled to understand and process the tonal qualities and prosody of language to understand social communications. His performance on the Social Perception Prosody index was mildly impaired (10<sup>th</sup> percentile rank) reflecting limitations in his understanding of complex social interactions that "use prosody to understand emotional content of a verbal expression, to link prosody with facial expressions, to discriminate sarcasm from other emotions, to label emotions from prosody, to express the impact of prosody

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<sup>4</sup> Holdnack, J. A., & Whipple Drozdick, L. (Research Directors) (2009). *Advanced Clinical Solutions for WAIS-IV and WMS-IV (ACS) Clinical and Interpretive Manual*. San Antonio, TX: Pearson, p. 299.

on the meaning of a verbal statement, and to link an auditory expression of emotion to an interaction between two people.”<sup>5</sup> He thus seemed to struggle at times to match a pictures to their corresponding taped, emotionally significant statements.

### **Fetal Alcohol Spectrum Disorders**

38. Based on my evaluation, interview, and review of records, I am convinced, to a reasonable degree of professional certainty, that Mr. Lee has a neurodevelopmental disorder. The most probable condition is that of a Fetal Alcohol Spectrum Disorder (FASD). FASD is a group of conditions, caused by maternal alcohol consumption during pregnancy. Alcohol is a teratogen that causes disruptions in the process of cell proliferation, migration and differentiation in the body and brain. These conditions include Fetal Alcohol Syndrome (FAS), partial fetal alcohol syndrome (pFAS), alcohol-related neurodevelopmental disorder (ARND) and alcohol-related birth defects (ARBD).
39. FAS is a permanent birth defect syndrome caused by maternal consumption of alcohol during pregnancy, characterized by growth deficiency, a unique cluster of facial anomalies, and central nervous system abnormalities.
40. FAS requires specific facial anomalies to be diagnosed wherein, in the other conditions, the characteristic dysmorphic facial features of FAS may not be present. Nonetheless, cognitive deficits remain.

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<sup>5</sup> *Id.*, p. 366.

41. Mr. Lee has at least some of the characteristic facial anomalies found in FAS. His eyes are notably short and wide set, a cardinal feature of FAS. Moreover, he has truly remarkable ears, highly unusual and deformed. There is a lack of internal detail and one is actually pointed on the posterior edge. Mr. Lee recalls being teased as a child and called “Dr. Spock” because of his unusual ears. The deformity is a strong indicator of FAS. In addition, he has a flat nasal bridge – another associated feature. Because other neurodevelopmental disorders can present with dysmorphic features, further investigation of Mr. Lee’s genetic background and his mother’s use of substances/medications must be explored.

42. The Center for Disease Control (CDC) has developed diagnostic criteria for FAS.

These criteria include the following central nervous system abnormalities:

#### I. Structural

- 1) Head circumference (OFC) at or below the 10th percentile adjusted for age and sex.
- 2) Clinically significant brain abnormalities observable through imaging.

#### II. Neurological

Neurological problems not due to a postnatal insult or fever, or other soft neurological signs outside normal limits.

#### III. Functional

Performance substantially below that expected for an individual's age, schooling, or circumstances, as evidenced by:

1. Global cognitive or intellectual deficits representing multiple domains of deficit (or significant developmental delay in younger children) with performance below the 3rd percentile (2 standard deviations below the mean for standardized testing) or
2. Functional deficits below the 16th percentile (1 standard deviation below the mean for standardized testing) in at least three of the following domains:
  - a) cognitive or developmental deficits or discrepancies
  - b) executive functioning deficits
  - c) motor functioning delays
  - d) problems with attention or hyperactivity
  - e) social skills
  - f) other, such as sensory problems, pragmatic language problems, memory deficits, etc.<sup>6</sup>

43. My examination of Mr. Lee addressed the Functional criteria associated with FAS as outlined by the CDC. He has demonstrated deficits falling below the 16<sup>th</sup> percentile, i.e., 1 standard deviation below the mean, in the areas of executive functioning, academic skills, motor functioning, social skills, and memory functions. Mr. Lee meets the requirement of impaired brain function as described

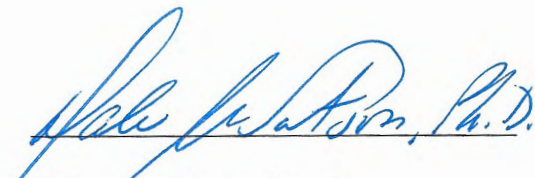
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<sup>6</sup> National Center on Birth Defects and Developmental Disabilities Centers for Disease Control and Prevention Department of Health and Human Services. (n.d.). Fetal Alcohol Syndrome: Guidelines for referral and diagnosis. Retrieved April 16, 2017, from [https://www.cdc.gov/ncbddd/fasd/documents/fas\\_guidelines\\_accessible.pdf](https://www.cdc.gov/ncbddd/fasd/documents/fas_guidelines_accessible.pdf)

by the CDC for Fetal Alcohol Syndrome (FAS). Confirmation of this diagnosis will require additional investigation of his mother's substance use. The work of Elizabeth Vartkessian, Ph.D., mitigation specialist, provides initial support for the proposition that Mr. Lee's mother may have drunk alcohol during her pregnancy with him.

44. In sum, I believe Mr. Lee has significant brain impairments, a neurodevelopmental disorder, a probable Fetal Alcohol Spectrum Disorder, and likely has either borderline or mild Intellectual Disability. I believe these are life-long impairments, that the physical markers of dysfunction are readily apparent, and would have been uncovered at any point since Mr. Lee's trial had a competent psychologist or neuropsychologist evaluated Mr. Lee.

I swear that the foregoing is true and correct to the best of my knowledge under penalty of perjury under the laws of the United States. Executed in Contra Costa County, State of California, on the 17<sup>th</sup> day of April, 2017.

  
Dale G. Watson, Ph.D.



## **DALE G. WATSON, PH.D.**

### **Clinical & Forensic Neuropsychology**

**Mail: 3377 Deer Valley Road, PMB 310, Antioch, CA 94531**

**Office: 866-536-5301 / Fax: 925-757-3690**

**Email: watson.dale@comcast.net**

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## **CURRICULUM VITAE**

**MARCH 20, 2017**

### **EDUCATION:**

- 1988 Ph.D. California School of Professional Psychology-Berkeley/Alameda  
Clinical Psychology (APA accredited)
- 1980 M.A. John F. Kennedy University, Orinda, CA.  
Clinical Psychology
- 1975 B.A. California State College, Sonoma, Rohnert Park, CA.  
Psychology

### **PROFESSIONAL EXPERIENCE:**

#### **1990- Private Practice**

Pinole, CA.

- Forensic Evaluation/Trial Consultation.
- Comprehensive Neuropsychological/Psychodiagnostic Assessment services.
- Mental Retardation "Atkins" evaluations.
- Adjudicative Competency & to be Executed, Insanity, Mitigation and Future Dangerousness.
- Trial testimony in Superior and Federal District Courts.
- Individual Psychotherapy.

#### **2007- Adjunct Faculty**

**1994-2000** The Wright Institute, Berkeley, CA. (APA accredited)

- Teaching 3-trimester courses in Graduate Level Psychodiagnostic Assessment including intellectual and psychological evaluation and neuropsychological screening.
- Dissertation supervision.

#### **2000-2016 Consulting Clinical Neuropsychologist**

Neurobehavioral Cognitive Services, Dixon, CA.

- Neurocognitive rehabilitation services including consultation and treatment planning.
- Individual and Group Psychotherapy with neurologically impaired patients.
- Neuropsychological and Psychodiagnostic Assessment.

#### **1990-1992 Clinical Neuropsychologist**

NeuroCare, Concord, CA.

- Acting program director (July 1991).
- Psychology team leader.
- Supervision of interns and the behavioral technician.
- Post-acute rehabilitation of the brain-injured.
- Neuropsychological evaluation.
- Treatment planning.
- Individual/Couples/Group Psychotherapy.
- Substance Abuse treatment/Cognitive Rehabilitation/Crisis Intervention.

**CURRICULUM VITAE**

**PROFESSIONAL EXPERIENCE (CONTINUED):**

**1989-1990 Psychological Assistant**

Supervisor: James Cole, Ph.D.  
NeuroCare, Concord, CA.

- Post-acute rehabilitation of the brain-injured.
- Neuropsychological evaluation.
- Treatment planning.
- Individual/Couples/Group Psychotherapy.
- Substance Abuse treatment/Cognitive Rehabilitation/Crisis Intervention.

**1988-1990 Psychological Assistant**

Supervisor: Virginia Wulf, Ph.D., Pinole, CA.

- Individual/Couples Psychotherapy.

**1988-1989 Psychological Assistant**

Supervisor: Norbert Ralph, Ph.D.

Comprehensive Assessment Services/Sausalito Professional Clinic Sausalito, CA.

- Psychodiagnostic evaluations of hospitalized, adolescent substance abusers.
- Hospital Consultation (New Beginnings - Modesto).

**1986-1989 Psychological Assistant**

Supervisors: Michael Shore, Ph.D./Harry Noda, Jr., Ph.D.

Specialized Rehabilitation Services

An affiliate of Transitions / Bay Area Recovery Centers, Fremont, CA.

Brain Injury Rehabilitation Program (1986-1987)

- Coordinating the Treatment Team.
- Neuropsychological and Psychodiagnostic Evaluation.
- Cognitive Rehabilitation.
- Individual Psychotherapy/Case Management.

Chronic Pain Management Program

- Individual/Group Psychotherapy.
- Case Management.
- Biofeedback Training.
- Patient education.

**1981-1986 Clinical Coordinator/ Psychological Assistant**

Supervisors: Sheila Bastien, Ph.D./Ann Hoff, Ph.D.

Spectrum Psychology Associates, Berkeley, CA.

- Clinical Coordination.
- Neuropsychological, Psychodiagnostic and Vocational Evaluation.
- Evaluation of the Developmentally Disabled
- Individual Psychotherapy.
- Forensic psychology.

**1984-1985 Clinical Psychology Intern (Academic Year)**

Supervisor: Neil Young, Ph.D.

Community Education and Counseling Center, Fremont, CA.

- Individual Psychotherapy within a Control Mastery framework.
- Group and Couples Psychotherapy.
- Community Needs Assessment (Program Evaluation).

**CURRICULUM VITAE**

**PROFESSIONAL EXPERIENCE (CONTINUED):**

**1983-1984 Clinical Psychology Intern (Academic Year)**

Supervisor: Joan Roth, Ph.D.

Northern California Reception Center,

California Medical Facility, Vacaville, CA.

- Psychodiagnostic Evaluation of court referred criminal offenders.
- Group Psychotherapy with Category "B" inmates (Pre-operational Transsexuals).
- Individual Psychotherapy.

**1983 Teaching Assistant**

Neuropsychological Measurement Laboratory

California Graduate School of Marital and Family Therapy, San Rafael, CA.

- Taught the laboratory section of Neuropsychological Assessment using the Halstead-Reitan Battery.

**1983 Clinical Psychology Intern**

East Bay Activities Center, Oakland, CA.

- Milieu therapy in classroom setting with emotionally disturbed children.

**1983 Co-Leader: Neuropsychological Assessment - An In-service Training Workshop. Sonoma County Office of Education.**

- 1-day in-service training workshop with psychologists and nurses.

**1982 Teaching Assistant**

Neuropsychological Measurement Laboratory

California School of Professional Psychology, Berkeley, CA.

- Taught the laboratory section of Neuropsychological Assessment using the Halstead-Reitan Battery.

**1982 Teaching Assistant**

Neuropsychological Measurement Laboratory

California Graduate School of Marital and Family Therapy

San Rafael, CA.

- Taught the laboratory section of Neuropsychological Assessment using the Halstead-Reitan Battery.

**1979-1980 Counselor Intern**

Contra Costa County Alcoholism Information and Rehabilitation Service (AIRS), Antioch, CA.

- Conducted Alcoholism Education Orientations.
- Individual, Marital and Group Psychotherapy.

**1978-1979 Counselor Intern**

John F. Kennedy University Community Counseling Center, Concord, CA.

- Individual, Marital, and Family Psychotherapy.
- Peer Supervision.

**1975 Staff Counselor**

New Horizons Center, Pittsburg, CA.

- Milieu treatment of developmentally disabled and psychotic adolescents and young adults.
- Liaison to Consulting Psychiatrist.

**PROFESSIONAL TRAINING:**

2017 "R-PAS Coding Solutions." Donald J. Viglione, Ph.D., Society for Personality Assessment, March 19, 2017, San Francisco, CA 7 CE Units.

2017 "Proficiency in Personality Assessment: Producing an Integrated Report." Hades Pade, Psy.D. & A. Jordan Wright, Ph.D., Society for Personality Assessment, March 15, 2017, San Francisco, CA 3.5 CE Units.

2017 "Developmental Amnesia: Memory Formation in the Absence of Remembering." Faraneh Vargha-Khadem, Ph.D., International Neuropsychological Society (INS) 45<sup>th</sup> Annual Meeting, February 1, 2017, New Orleans, LA 1 CE Unit.

**PROFESSIONAL TRAINING (CONTINUED):**

- 2017 “Frontal Cortex and Human Behavior: Evidence from Intracranial Recording.” Robert T. Knight, M.D., International Neuropsychological Society (INS) 45<sup>th</sup> Annual Meeting, February 1, 2017, New Orleans, LA 1 CE Unit.
- 2017 “Adult Aphasia: Classifications, Localization, and Neuroimaging.” Nina Dronkers, Ph.D., International Neuropsychological Society (INS) 45<sup>th</sup> Annual Meeting, February 1, 2017, New Orleans, LA 3 CE Units.
- 2017 “Clinical Assessment of Frontal Lobe Functions: A Historical Perspective of the Application of the Boston VA Jamaica Plains VA Process Approach.” Donald Stuss, Ph.D., International Neuropsychological Society (INS) 45<sup>th</sup> Annual Meeting, February 1, 2017, New Orleans, LA 3 CE Units.
- 2016 “21<sup>st</sup> Century Neuroimaging Applications in the Practice of Clinical Neuropsychology.” Erin Bigler, Ph.D., National Academy of Neuropsychology, October 21, 2016, Seattle, WA. 3 CE Units.
- 2016 “Overview of Recreational and Medical Marijuana: Ethical, Scientific and Legal Issues Across the Lifespan.” Godfrey Pearlson, Ph.D., National Academy of Neuropsychology, October 20, 2016, Seattle, WA. 2.0 CE Units.
- 2016 “Neuropsychological Assessment and Preclinical Alzheimer’s Disease.” Dorene Rentz, Ph.D., National Academy of Neuropsychology, October 20, 2016, Seattle, WA. 3 CE Units.
- 2016 “Historical, Conceptual, and Empirical Factors in Performance and Symptom Validity Assessment.” Glenn Larrabee, Ph.D., National Academy of Neuropsychology, October 19, 2016, Seattle, WA. 3 CE Units.
- 2016 “Legal and Ethical Challenges Using the DSM-5: Best Practices.” Pamela Harmell, Ph.D., Professional Psych Seminars, March 3, 2016. Online at <http://www.psychsem.com/> 6 CE Units.
- 2015 “Behavioral Neurology: Integrating the Neurologic Examination for the Neuropsychologist: Neuroanatomic Localization of Common Pathologies, Interventions, and Higher Cognitive Functions.” Lola Morgan, M.D., Annual Conference, National Academy of Neuropsychology, November 7, 2015, Austin, TX. 2 CE Units.
- 2015 “Moving Neuropsychology from the Backdoor to the Front Door: Embracing Outcomes in Research and Practice.” Gordon J. Chelune, Ph.D., Annual Conference, National Academy of Neuropsychology, November 6, 2015, Austin, TX. 1 CE Units.
- 2015 “The New Metabolic Cascade and Comprehensive Model of Concussion: Looking to Drive Clinical Practice.” Christopher Giza, M.D. and Michael McCrea, Ph.D., Annual Conference, National Academy of Neuropsychology, November 6, 2015, Austin, TX. 3 CE Units.
- 2015 “Improving the Methodology for Assessing Mild Cognitive Impairment in Children, Adults, and Older Adults.” Grant L. Iverson, Ph.D., Annual Conference, National Academy of Neuropsychology, November 5, 2015, Austin, TX. 1 CE Units.
- 2015 “Performance Validity Testing in At-Risk Populations: Ethical Practices.” Kyle Brauer Boon, Ph.D., Annual Conference, National Academy of Neuropsychology, November 5, 2015, Austin, TX. 3 CE Units.
- 2015 “Frontal Lobe Functioning: Clinicians Beware – Appearances May Be Deceiving.” Donald T. Stuss, Ph.D., Annual Conference, National Academy of Neuropsychology, November 4, 2015, Austin, TX. 1 CE Units.
- 2015 “The Ethical Practitioner: Assessing Executive Functioning in an Emotional World.” Yana Suchy, Ph.D., Annual Conference, National Academy of Neuropsychology, November 4, 2015, Austin, TX. 2 CE Units.
- 2015 “Decision Making: The Role of the Evidence-Based Practitioner.” Gordon Chelune, Ph.D., Annual Conference, National Academy of Neuropsychology, November 4, 2015, Austin, TX. 2 CE Units.
- 2015 “R-PAS Intermediate Level Workshop: Sharpening Coding, Administration, and Interpretation Skills.” Philip Erdberg, Ph.D., ABPP & Donald Viglione, Ph.D., ABAP, October 24-25, 2015, San Francisco, CA. 13 CE Units.
- 2015 “Neuro-Oncology for Neuropsychologists.” Michael W. Parson, Ph.D., ABPP, 13<sup>th</sup> Annual Conference, American Academy of Clinical Neuropsychology, June 19, 2015, San Francisco, CA. 3 CE Units.

**PROFESSIONAL TRAINING (CONTINUED):**

- 2015 "Chronic Issues and Controversies in Mild TBI." Rodney D. Vanderploeg, Ph.D., ABPP & Heather G. Belanger, Ph.D., ABPP, 13<sup>th</sup> Annual Conference, American Academy of Clinical Neuropsychology, June 19, 2015, San Francisco, CA. 3 CE Units.
- 2015 "Multiple Performance & Symptom Validity Tests in Neuropsychological Assessment." Glenn J. Larrabee, Ph.D., ABPP & Jeremy J. Davis, Psy.D., ABPP, 13<sup>th</sup> Annual Conference, American Academy of Clinical Neuropsychology, June 18, 2015, San Francisco, CA. 3 CE Units.
- 2015 "Current Controversies in Neuropsychology Computerized Brain Training: What's the Evidence?" Aaron Nelson, Elkhonon Goldberg, & Robert S. Wilson, 13<sup>th</sup> Annual Conference, American Academy of Clinical Neuropsychology, June 18, 2015, San Francisco, CA. 1 CE Unit.
- 2015 "Advanced Neuropsychological Report Writing." Jacobus Donders, Ph.D., ABPP, 13<sup>th</sup> Annual Conference, American Academy of Clinical Neuropsychology, June 18, 2015, San Francisco, CA. 3 CE Units.
- 2015 "Development, Revision, and Implementation of the HCR-20 Version 3." Kevin Douglas, Ph.D., Consolidated Continuing Education and Professional Training (CONCEPT), February 4, 2015, Webinar (3 CE units).
- 2014 "Ethics: Informed Consent, Confidentiality, and Diagnosing." At Health, Inc. and PsychoEducational Resources, Inc. February 1, 2014. Online <http://www.athealthce.com>, (1 CE unit).
- 2014 "From Exner to R-PAS: Surviving the Transition." Andrew Pojman, Ed.D. & Barbara Peterson, Ph.D. The Wright Institute Continuing Education Program. February 1, 2014. Berkeley, CA (6 CE units).
- 2013 "Statistics 2: Inference and Association." Michelle Everson. The Institute for Statistics Education at Statistics.com. October 10, 2013 – November 11, 2013. (5 CE units).
- 2013 "Cognitive Science, Technology, and Neuropsychological Test Development: A Look at the Past and Future." Dean Delis, Ph.D. Annual Conference of the National Academy of Neuropsychology (NAN). October 18, 2013. San Diego, CA (2 CE credits).
- 2013 "Brains in the 'Cloud': The Amnesic Patients H.M., E.P. and the Digital Brain Library. Jacopo Annese, Ph.D. Annual Conference of the National Academy of Neuropsychology (NAN). October 18, 2013. San Diego, CA (2 CE credits).
- 2013 "Unfolding, Unfurling, and Unraveling: Imaging of Brain Development in Adolescence, Early, and Middle Adulthood." Monte S. Buchsbaum, M.D. Annual Conference of the National Academy of Neuropsychology (NAN). October 18, 2013. San Diego, CA (3 CE credits).
- 2013 "Conners Continuous Performance Test: Revised Version of the Visual Paradigm and New Audio Paradigm." Gill Sitarenios, Ph.D. & Kent Lam, Ph.D. Annual Conference of the National Academy of Neuropsychology (NAN). October 17, 2013. San Diego, CA (2 CE credits).
- 2013 "Scientific Update on Mild Traumatic Brain Injury (MTBI). New Evidence for Diagnosis and Management." Michael McCrea, Ph.D. Annual Conference of the National Academy of Neuropsychology (NAN). October 17, 2013. San Diego, CA (3 CE credits).
- 2013 "Early Detection of Alzheimer's Disease." Ronald C. Petersen, M.D., Ph.D. Annual Conference of the National Academy of Neuropsychology (NAN). October 16, 2013. San Diego, CA (1 CE credits).
- 2013 "Emotion, Decision-Making, and the Prefrontal Cortex Across the Lifespan." Daniel Tranel, Ph.D. Annual Conference of the National Academy of Neuropsychology (NAN). October 16, 2013. San Diego, CA (3 CE credits).
- 2013 "Forensic Neuropsychology: A Scientific Approach to Forensic Neuropsychology." Glenn J. Larrabee, Ph.D. Annual Conference of the National Academy of Neuropsychology (NAN). October 16, 2013. San Diego, CA (3 CE credits).
- 2013 "Statistics 1: Probability and Study Design." Michelle Everson. The Institute for Statistics Education at Statistics.com. September 11, 2013 – October 12, 2013. (5 CE units).

**PROFESSIONAL TRAINING (CONTINUED):**

- 2013 "Schizophrenia: The Role of Symptom Domain on Patient Outcomes." Henry A. Nazralla, M.D. & Joseph P. McEvoy, M.D. MCE LLC. Online <http://www.naccme.com/node/6424/course/6707/presentation>, January 24, 2013 (1.5 CME).
- 2012 "Meyers Neuropsychological Battery and Meyers Neuropsychological Software System." John E. Myers, Psy.D., ABN, ABPdN. The American College of Professional Neuropsychology, June 15-16, 2012. Irvine, CA (12 CE credits).
- 2011 "Introduction to the Rorschach Performance Assessment System: Practical Clinical Training and Case Illustrations." Donald Viglione, Ph.D. & Philip Erdberg, Ph.D. Alliant International University, June 3 & 4, 2011. San Francisco, CA (12.5 CE credits)
- 2011 "Biopsychosocial Outcome from Mild Traumatic Brain Injury." Grant Iverson, Ph.D. The American College of Professional Neuropsychology, March 12, 2011. Las Vegas, NV. (3 CE credits)
- 2011 "Reframing Nonverbal Learning Disorders: Identifying Clinical Subgroups." Gail M. Grodzinsky, Ph.D., ABPdN. The American College of Professional Neuropsychology, March 12, 2011. Las Vegas, NV. (3 CE credits)
- 2011 "From Movement to Thought: Subcortical Contributions to Psychiatric and Learning Disorders." Dana Chidekel, Ph.D., ABPdN & Deborah E. Budding, Ph.D., ABPdN, ABN. The American College of Professional Neuropsychology, March 11, 2011. Las Vegas, NV. (3 CE credits)
- 2011 "Neuropsychological Science and Forensic Competencies: Applications in Civil and Criminal Cases." Daniel A. Martell, Ph.D., A.B.P.P. The American College of Professional Neuropsychology, March 11, 2011. Las Vegas, NV. (3 CE credits)
- 2010 "Neuroanatomical Dissection: Human Brain and Spinal Cord." William E. Cullinan, Ph.D., David A. Baker, Ph.D., Subhash C. Bhatnagar, M.S.-CCC (SPL), Ph.D., James P. Herman, Ph.D., John R. Mantsch, Ph.D., & Robert C. Thompson, Ph.D. Marquette University, July 15 – 17, 2010. (21 hours)
- 2010 "Finding Balance: Legal & Ethical Issues of Boundaries & Privacy in Psychotherapeutic Services." Daniel Taube, J.D., Ph.D. John F. Kennedy University, March 12, 2010. Campbell, CA. (6 C.E. credits)
- 2010 "Neuropsychology and the Death Sentenced Inmate." Michael B. Charlton, J.D. Annual Conference of the American College of Professional Neuropsychology, February 27, 2010. Las Vegas, NV. (3 C.E. credits)
- 2010 "Introduction to Empirically Based Assessment: Developing an EBA Model for AD/HD." Steven J. Hughes, Ph.D., LP, ABPdN. Annual Conference of the American College of Professional Neuropsychology, February 27, 2010. Las Vegas, NV. (3 C.E. credits)
- 2010 "Central Auditory Processing in Children and Adolescents." Teresa Bailey, Ph.D., Ph.D. Annual Conference of the American College of Professional Neuropsychology, February 26, 2010. Las Vegas, NV. (3 C.E. credits)
- 2010 "What the Forensic Neuropsychologist Needs to Know about Death Penalty Litigation." Thomas J. Reidy, Ph.D., ABPP. Annual Conference of the American College of Professional Neuropsychology, February 26, 2010. Las Vegas, NV. (3 C.E. credits)
- 2010 "Reitan Society Meeting." Ralph Reitan, Ph.D., Deborah Wolfson, Ph.D., Jim Hom, Ph.D., & Janice Nice, Ph.D., February 24-25, 2010. Las Vegas, NV. (12 C.E. credits)
- 2009 "WAIS-IV/WMS-IV and the Advanced Clinical Solutions for WAIS-IV/WMS-IV: Clinical Application and Interpretation in Neurological and Psychiatric Disorders." James A. Holdnack, Ph.D. 29<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 14, 2009. New Orleans, LA. (3 C.E. credits)
- 2009 "Neuroimaging Evidence in the Criminal Trial Process: Recent Developments, the Role of Attitudes, Some Unasked Questions, and Predictions for the Future." Michael L. Perlin, J.D. 29<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 12, 2009. New Orleans, LA. (3 C.E. credits)
- 2009 "Psychometrics: Making Test Classification Decisions Practical." Richard Frederick, Ph.D. 29<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 12, 2009. New Orleans, LA. (3 C.E. credits)



**PROFESSIONAL TRAINING (CONTINUED):**

- 2009 "Functional Neuroanatomy of Memory: Three Amnesias or One?" Russell M. Bauer, Ph.D. 29<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 11, 2009. New Orleans, LA. (3 C.E. credits).
- 2008 "Law and Ethics." Daniel O. Taube, J.D., Ph.D. John F. Kennedy University, March 10, 2006. Pleasant Hill, CA. (6 APA CE units).
- 2007 "Useful Clinical Ratings of CT and MRI in the Clinical Practice of Neuropsychology." Erin Bigler, Ph.D. 27<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 14-17, 2007. Scottsdale, AZ (3 CE Credits).
- 2007 "The Amazing Halstead Finger Oscillation Test." George Prigatano, Ph.D. 27<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 14-17, 2007. Scottsdale, AZ (3 CE Credits).
- 2007 "Introducing the MMPI-2-RF (Restructured Form)." Yossef Ben-Porath, Ph.D. 27<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 14-17, 2007. Scottsdale, AZ (3 CE Credits).
- 2007 "Behavioral Teratology: Neuropsychological Effects of Prenatal Exposures. Sarah N. Mattson, Ph.D. 27<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 14-17, 2007. Scottsdale, AZ (1.5 CE Credits).
- 2007 "Releasing Raw Data and Psychological Test Materials: Ethical Dilemmas, Legal Requirements, and Simple Solutions to Discovery Demands." Paul Kaufmann, J.D., Ph.D. 27<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 14-17, 2007. Scottsdale, AZ (1.5 CE Credits).
- 2007 "The Neurobiology of Antisocial, Violent, and Psychopathic Behavior." Adrian Raine, Ph.D. 27<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 14-17, 2007. Scottsdale, AZ (3 CE Credits).
- 2007 "Forensic Evaluation." Institute of Law, Psychiatry and Public Policy, School of Medicine & School of Law, University of Virginia under contract for the Virginia Department of Mental Health, Mental Retardation and Substance Abuse Services and the Office of the Attorney General, April 30 - May 4, 2007, Charlottesville, VA (30 APA CE Units).
- 2006 "Deepening Legal and Ethical Understanding in Clinical Practice." Daniel O. Taube, J.D., Ph.D. John F. Kennedy University, March 10, 2006. Pleasant Hill, CA. (6 APA CE units).
- 2004 "Assessment of Response Bias: Beyond Malingering Tests." Scott R. Millis, 24<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 17-20, 2004. Seattle, WA. (3 APA CE units).
- 2004 "Neurochemistry and Medication Management of Aggression in Children, Adolescents, and Adults." Daniel Matthews, M.D. 24<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 17-20, 2004. Seattle, WA. (3 APA CE Units).
- 2004 "Constitutional/Judicial Foundations for Criminal Forensic Neuropsychology: Competency to Stand Trial and Confess." Robert L. Denny, Psy.D. & James Sullivan, Ph.D., 24<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 17-20, 2004. Seattle, WA. (3 APA CE Units).
- 2004 "Professional Issues." Antonio Puente, Leslie Rosenstein, & Patricia Pimental, 24<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 17-20, 2004. Seattle, WA. (1.0 APA CE Units).
- 2004 "Pediatric Brain Injury: Neuroimaging, Clinical Presentation, and Neuropsychological Status, Dr. Paul C. Leiby, 24<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 17-20, 2004. Seattle, WA. (3 APA CE Units).
- 2004 "What neuropathology can teach us about the neurobiology of the self." Todd Feinberg, 24<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 17-20, 2004. Seattle, WA. (1.5 APA CE Units).
- 2004 "Imaging brain circuitry in the clinical neuropsychology of memory: fMRI, morphometry & DTI. Andrew J. Saykin, 24<sup>th</sup> Annual Conference of the National Academy of Neuropsychology, November 17-20, 2004. Seattle, WA. (3 APA CE Units).

**PROFESSIONAL TRAINING (CONTINUED):**

- 2004 “Workshop in Clinical Neuropsychology: Significant Developments and Advanced Clinical Issues.” Ralph Reitan, Deborah Wolfson, Jim Hom et al. Reitan Neuropsychology Laboratories, October 1-3, 2004. Phoenix, AZ (17 APA CE Units).
- 2004 “Spousal/Partner Abuse Assessment and Treatment: Domestic Violence Training.” John F. Kennedy University, February 20, 2004. Pleasant Hill, CA. (7 APA CE unites).
- 2004 “6-Hour Ethics and the Law.” Daniel O. Taube, J.D., Ph.D. John F. Kennedy University, February 6, 2004. Pleasant Hill, CA. (6 APA CE units).
- 2003 “A New Anatomical Framework for Neuropsychiatric Disorders: Systems Analysis and Hands-On Dissection of the Human Brain.” Lennart Heimer, M.D. Saint Louis University School of Medicine Practical Anatomy Workshop, October 31-November 2, 2003. St. Louis, MO. (17 APA CE units).
- 2003 “Practical Issues and Clinical Methods of Practice with the Wechsler Scales.” David Tulsy, Gordon Chelune & Josette Harris, 23rd Annual Conference of the National Academy of Neuropsychology, October 15-18, 2003. Dallas, TX. (3 APA CE units).
- 2003 “New Scores and Methods of Practice with the Wechsler Scales.” Gordon Chelune, David Tulsy & Josette Harris, 23rd Annual Conference of the National Academy of Neuropsychology, October 15-18, 2003. Dallas, TX. (3 APA CE units).
- 2003 “Race and Education in Neuropsychological Testing.” Jennifer Manly, 23rd Annual Conference of the National Academy of Neuropsychology, October 15-18, 2003. Dallas, TX. (3 APA CE units).
- 2003 “Neuropsychological Impairment and Environmental Risk Factors in Capital Murder Offenders.” Robert A. Geffner, Elizabeth Lim, Barbara Hart & Robert Owen, 23rd Annual Conference of the National Academy of Neuropsychology, October 15-18, 2003. Dallas, TX.
- 2003 “Functional Neuroanatomy Primer: Clinical Presentation of Patients with Neuropsychological Conditions.” Paul Leiby, Ph.D., 23rd Annual Conference of the National Academy of Neuropsychology, October 15-18, 2003. Dallas, TX.
- 2003 “The Atkins Decision and the Forensic Evaluation of Mental Retardation: Roles for the Neuropsychologist and Special Educator.” J. Randall Price & Kay Stevens, 23rd Annual Conference of the National Academy of Neuropsychology, October 15-18, 2003. Dallas, TX. (3 APA CE units).
- 2003 “Increasing Diagnostic and Predictive Accuracy in Neuropsychology.” David Faust, Ph.D., 2003 23rd Annual Conference of the National Academy of Neuropsychology, October 15-18, 2003. Dallas, TX. (3 APA CE units).

**PUBLICATIONS:**

- Watson, D. G. (2015). Intelligence Testing. In E. A. Polloway (Ed.), *The death penalty and intellectual disability* (pp. 113-140). Washington, DC: American Association on Intellectual and Developmental Disabilities (AAIDD).
- Blank, J., Evered, L., Watson, D., & Ruff, R. (2014). C-87 Malingering Madness: Distress as a Diagnostic Alternative (Abstract). *Archives of Clinical Neuropsychology*, 29(6), 605.
- McGrew, K.S., & Watson, D.G. (2012). Applied Psychometrics 101 Brief #14. Demographically adjusted neuropsych (Heaton) norm-based scores inappropriate for MR/ID dx. *Intellectual competence and the death penalty*. Retrieved from <http://www.atkinsmdeathpenalty.com/2012/07/ap-101-brief-14-demographically.html>
- Abueg, F., Woods, G.W., & Watson, D.G. (2000). Disaster Trauma. In Frank M. Dattillio & Arthur Freeman (Eds.) *Cognitive Behavioral Strategies in Crisis Intervention, Second Edition*. New York, N.Y.: Guilford Press.
- Bastien, S., Peterson, D. & Watson, D.G. (1996). IQ abnormalities associated with chronic fatigue syndrome in repeated WAIS-R testing (Abstract). *Journal of Chronic Fatigue Syndrome*, 2(2/3).



**PRESENTATIONS:**

- 2017 "Neuropsychological Development and Presenting Findings." Co-presented with Sean O'Brien. 2017 Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 18, 2017. San Diego, CA.
- 2017 "Neuropsychological Assessment: Overview of a Competent Assessment." Co-presented with Denise Gragg, Esq. 2017 Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 18, 2017. San Diego, CA.
- 2016 "New Issues in Atkins Cases." Co-presented with James Patton, Ed.D., & Sara Coebra. 13th National Seminar on the Development & Integration of Mitigation Evidence. Administrative Offices of the U.S. Courts. April 2, 2016. New Orleans, LA.
- 2016 "Traumatic Brain Injury." Co-presented with Jackie Walsh, Esq. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 14, 2016. San Diego, CA.
- 2016 "Emerging Issues in Neuropsychology." Co-presented with Michael Laurence, Esq. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 14, 2016. San Diego, CA.
- 2015 "Neuropsychological Assessment." National Association of Criminal Defense Lawyers' Seminar, "Making the Case for Life," August 22, 2015, Las Vegas, NV.
- 2015 "Working with Mental Health Experts." Co-presented with Mark Olive, Esq. National Association of Criminal Defense Lawyers' Seminar, "Making the Case for Life," August 22, 2015, Las Vegas, NV.
- 2015 "*Atkins, Hall, and Brumfield*." Co-presented with Mark Olive, Esq. National Association of Criminal Defense Lawyers' Seminar, "Making the Case for Life," August 22, 2015, Las Vegas, NV.
- 2015 "Litigating Intellectual Disability Post-Hall: *Atkins, Hall, and Brumfield*." Co-presented with Stephen Harper, Esq. 36<sup>th</sup> Annual Death Penalty Training Conference, Airlie Conference Center, July 12, 2015, Warrenton, VA.
- 2015 "Understanding (and Avoiding the Pitfalls of) Neuroimaging." Twelfth National Seminar on the Development and Integration of Mitigation Evidence. Habeas Assistance and Training Counsel/Administrative Offices of the United States Courts. April 12, 2015, Baltimore, MD.
- 2015 "An Overview of IQ Scores and Testing." Twelfth National Seminar on the Development and Integration of Mitigation Evidence. Habeas Assistance and Training Counsel/Administrative Offices of the United States Courts. April 10, 2015, Baltimore, MD.
- 2015 "Litigating Atkins Claims at Trial and on Post-conviction Review." Co-presented with Mark Olive, Esq. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 14, 2015. Monterey, CA.
- 2015 "Advanced Issues in Neuropsychology, including Presenting Data." Co-presented with Michael Laurence, Esq. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 14, 2015. Monterey, CA.
- 2014 "Neuropsychological Assessment." Making the Case for Life conference. National Association of Criminal Defense Lawyers (NACDL). October 25, 2014. Charlotte, NC.
- 2014 "Intellectual Disability." CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 15, 2014. Monterey, CA.
- 2014 "Emerging Trends in Neuropsychology." Co-presented with Michael Laurence, Esq. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 15, 2014. Monterey, CA.

**PRESENTATIONS (CONTINUED):**

- 2013 “What is Mental Retardation/Intellectual Disability?” Co-presented with Michael Burt, Esq. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 16, 2013. Monterey, CA.
- 2013 “Neuropsychology 201: Neuropsychological Testing.” Co-presented with Michael Laurence, Esq. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 16, 2013. Monterey, CA.
- 2013 “Neuropsychology 301: Presenting Neuropsychological Evidence.” Co-presented with Michael Laurence, Esq. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 16, 2013. Monterey, CA.
- 2012 “Psychosis Risk and Attenuated Psychosis Syndromes: Current Understanding.” Contra Costa Psychological Association. October 10, 2012 (2 CE units).
- 2011 “Atkins and Neuro-Psychological Testing.” Co-presented with Mark Olive, Esq. Capital Case Litigation Training Conference, Office of the Public Defender of the State of Delaware. October 13, 2011, Dover, Delaware.
- 2011 “The Neuropsychology of Fetal Alcohol Spectrum Disorders.” Capital Mitigation – Beyond Atkins. Center for American and International Law. July 9, 2011. Houston, TX.
- 2011 “Uncovering Evidence of Brain Damage: Phineas Gage.” Co-presented with Richard Burr, Esq. and Russell Stetler, National Mitigation Coordinator. National Capital Habeas Unit (CHU) Conference. Administrative Office of the United States Courts. April 8, 2011. Austin, TX.
- 2011 “Testing Issues in Intellectual Disability/*Atkins* Cases.” Eighth National Seminar on the Development and Integration of Mitigation Evidence: Mitigation Narratives. Habeas Assistance and Training Counsel/Administrative Offices of the United States Courts. April 2, 2011, Chicago, IL.
- 2011 “Winning *Atkins* hearings: Case Studies.” Co-presented with Michael Burt, Esq. Eighth National Seminar on the Development and Integration of Mitigation Evidence: Mitigation Narratives. Habeas Assistance and Training Counsel/Administrative Offices of the United States Courts. April 2, 2011, Chicago, IL.
- 2011 Plenary Presentation: “DSM-5 (Psychosis Risk Syndrome/Intellectual Disability).” CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 20, 2011. Monterey, CA.
- 2011 “Cross Examination of a Defense Mental Retardation/Intellectual Disability Expert.” Co-presented with Edward Souza, J.D. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 19, 2011. Monterey, CA.
- 2011 “Basic Neuropsychology (Brain Dysfunction).” CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 19, 2011. Monterey, CA.
- 2011 “Current Issues in Neuropsychology.” Fourth National Seminar on Mental Health and the Criminal Law. Habeas Assistance and Training Counsel/Administrative Office of the United States Courts. January 15, 2011. New Orleans, LA.
- 2010 “DSM-5: Proposed Changes.” Habeas Corpus Resource Center Spring Conference. Habeas Corpus Resource Center. May 17, 2010. San Francisco, CA.
- 2010 “Neuropsychology of Mental Retardation.” CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 14, 2010. Monterey, CA.
- 2010 “Model Direct of a Mental Retardation Neuropsychologist.” Co-presented with Edward Sousa, J.D. CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 14, 2010. Monterey, CA.

**PRESENTATIONS (CONTINUED):**

- 2009 "Presenting a Reason to Vote for Life via the Testimony of a Neuropsychologist." 2009 Death Penalty Defense Seminar. Oregon Criminal Defense Lawyers Association (OCDLA), October 23, 2009, Bend, Oregon.
- 2009 "The Neuropsychology of Intellectual Disabilities: Current Research on Intellectual Impairment." 14<sup>th</sup> Annual Federal Habeas Corpus Seminar. Administrative Offices of the U.S. Courts. August 22, 2009, Pittsburgh, PA.
- 2009 "The Neuropsychology of Schizophrenia." 14<sup>th</sup> Annual Federal Habeas Corpus Seminar. Administrative Offices of the U.S. Courts. August 22, 2009, Pittsburgh, PA.
- 2009 "Testing and Other Psychological Issues." Habeas Corpus Resource Center Spring Conference. Habeas Corpus Resource Center. June 19, 2009. San Francisco, CA.
- 2009 Plenary Presentation: "The Neuropsychology of Intellectual Disabilities: Current Research on Intellectual Impairment." Fifth National Seminar on the Development and Integration of Mitigation Evidence. Administrative Offices of the U.S. Courts. April 18, 2009, Philadelphia, PA.
- 2009 "Neuropsychological Assessment and Brain Impairment." Life in the Balance 2009. The National Legal Aid & Defender Association. March 7, 2009. New Orleans, LA.
- 2009 "Mental Health/Mental Retardation Testing." Life in the Balance 2009. The National Legal Aid & Defender Association. March 7, 2009. New Orleans, LA.
- 2009 Plenary Presentation: "The Neuropsychology of Psychiatric Disorders – Schizophrenia." CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 15, 2009. Monterey, CA.
- 2009 "New Developments in Psychological Testing." CACJ/CPDA Capital Case Defense Seminar. California Attorneys for Criminal Justice/California Public Defender Association. February 15, 2009. Monterey, CA.
- 2008 "Executive Functioning." 2008 Capital Case Seminar. Los Angeles County Public Defender. October 17, 2008. Los Angeles, CA.
- 2008 "Recent Developments in the Science of Brain Damage and Observations on Interviewing Experts." Mitigation Workshop. Virginia Capital Representation Resource Center (VCCRC). September 25, 2008. Charlottesville, VA.
- 2008 "Intellectual Disabilities: IQ and Adaptive Functioning Evaluation." Life in the Balance 2008: Defending Death Penalty Cases. The National Legal Aid & Defender Association. March 8, 2008. Atlanta, GA.
- 2008 "Neuropsychological Evaluation." Life in the Balance 2008: Defending Death Penalty Cases. The National Legal Aid & Defender Association. March 8, 2008. Atlanta, GA.
- 2007 "The Roles of Psychology and Neuropsychology in Forensic Evaluations." Second Annual Solano County Public Defender Felony Transition Seminar. Office of the Solano County Public Defender. September 28, 2007. Fairfield, CA.
- 2007 "Attacks on Neuropsychological Norms." National Seminar on the Development and Integration of Mitigation Evidence in Capital Cases. Administrative Office of the US Courts. March 30, 2007. Washington, D.C.
- 2007 "Intelligence Testing." National Seminar on the Development and Integration of Mitigation Evidence in Capital Cases. Administrative Office of the US Courts. March 30, 2007. Washington, D.C.
- 2007 "Neuropsychological Evaluation: The Impact of Norms." 2007 CACJ/CPDA Capital Case Defense Seminar. February 18, 2007. Monterey, CA.
- 2007 "Frontal and Temporal Brain Systems and Functions." Co-presented with Karen Froming, Ph.D. 2007 CACJ/CPDA Capital Case Defense Seminar. February 18, 2007. Monterey, CA.

**CURRICULUM VITAE****PRESENTATIONS (CONTINUED):**

- 2006 "Neuropsychological Assessment." Making the Case for Life IX: Mitigation and Jury Selection in Capital Cases. National Association of Criminal Defense Lawyers and the Southern Center for Human Rights. September 30, 2006. Las Vegas, NV.
- 2006 "Foundations of Neuropsychology." First Annual Felony Transition College. Solano County Public Defender's Office. June 23, 2006. Fairfield, CA.
- 2006 "Psychological and Neuropsychological Testing." Motions, Evidence & Expert Witnesses. The Center for American and International Law. May 21, 2006. Plano, TX.
- 2006 "Brain, Behavior, and Cognition." Co-Presented with James R. Merikangas, M.D. National Seminar on the Development and Integration of Mitigation Evidence. Administrative Offices of the U.S. Courts. April 28, 2006. Washington, DC.
- 2005 "Executive Functions." Second National Seminar on Development and Integration of Mitigation Evidence. Administrative Office of the U.S. Courts. April 22, 2005. Salt Lake City, UT.
- 2005 "Law and the Brain – The Neurobiology of Violence." Washington State Appellate Courts Spring Judicial Conference. April 6, 2005. Walla Walla, WA.
- 2005 "Mental Retardation." Texas Criminal Defense Lawyers Association. February 23 & 24, 2005. Dallas, TX.
- 2005 "Neuropsychological Evaluation." 2005 CACJ/CPDA Capital Case Defense Seminar. February 21, 2005. Monterey, CA.
- 2005 "Mental Retardation." CACJ/CPDA Capital Case Defense Seminar. February 21, 2005. Monterey, CA.
- 2004 "Developmental Aspects of Executive Functions." 2004 CACJ/CPDA Capital Case Defense Seminar. February 15, 2004. Monterey, CA.
- 2004 "Advanced Determination of Competency – A Case Study (Workshop)." Co-presented with John Philipsborn and Judge Michael Ryan. 2004 CACJ/CPDA Capital Case Defense Seminar. February 15, 2004. Monterey, CA.
- 2003 "Update on IQ Testing: Neuropsychology for the 21<sup>st</sup> Century." Paper presented with George W. Woods, M.D. at the 2003 Annual Meeting of the American Academy of Psychiatry and the Law (AAPL), October 19, 2003, San Antonio, TX.
- 2003 "The Subtlety of IQ Testing." 8<sup>th</sup> Annual National Federal Habeas Corpus Seminar. Administrative Office of the United States Courts and Habeas Assistance and Training Counsel. Chicago, IL.
- 2003 "Mental Retardation." Investigating Capital Cases Seminar. Virginia Capital Representation Resource Center. Charlottesville, VA.

**DISSERTATION:**

"Screening for Neurotoxicity: A Comparison of the Neurobehavioral Evaluation System and the California Neuropsychological Screening Battery"

**PROFESSIONAL AFFILIATIONS:**

- International: Member, International Neuropsychological Society (2004-present)  
Member, International Society for Intelligence Research (2011-present)
- National: Member, American Psychological Association (1988-present).  
Member, Division 12 (Society of Clinical Psychology), Section IX (Assessment)  
Member, Division 33 (Intellectual and Developmental Disabilities)  
Member, Division 40 (Clinical Neuropsychology)  
Member, Division 41 (American Psychology - Law Society)  
Member, National Academy of Neuropsychology (1995-present)  
Associate Member (1983-1994)  
Member, the Reitan Society (1998-2006)  
Member, American Association on Intellectual and Developmental Disabilities (2007-present)  
Member, Society for Personality Assessment (2009-present)

**CURRICULUM VITAE****HOSPITAL PRIVILEGES:**

2000-2003	Doctors Medical Center – San Pablo Campus
1991-2003	Doctors Medical Center – Pinole Campus
1992-1997	East Bay Hospital, Richmond, CA.
1993-1995	First Hospital of Vallejo

**LICENSES, QUALIFICATIONS AND CERTIFICATES:**

1990-Present	State of California Licensed Psychologist (PSY11899)
2017-2018	State of Oregon Limited Visitor's Permit 348
2016-2018	Association of State and Provincial Psychology Boards Interjurisdictional Practice Certificate (IPC) (Valid in Georgia, Idaho, Kentucky, Mississippi, Ohio, and South Carolina) #4462
2016-2017	State of Nevada Non-Resident Consultant Permit.
2016	State of Louisiana Temporary Registration
2016	State of Idaho Temporary License No PSYT - 202955
2016	State of Oregon Limited Visitor's Permit 309
2015-2016	State of Texas Temporary License NTLP-15-0002
2014-2016	State of Indiana Limited Scope License No. 99065119A
2014-2015	State of Alaska Courtesy License No 33
2014-2015	State of Mississippi Temporary Practice Certificate
2012	State of Texas Temporary License TLP-13-0008
2012	State of Texas Temporary License TLP-13-0003
2012-2014	State of Indiana Limited Scope License No. 99054133A
2012-2013	State of Oregon Psychology Visitor's Permit No. 218
2012	State of Louisiana Temporary Registration
2011-2012	State of Indiana Limited Scope License No. 99048551A
2011	State of Texas Psychology Temporary License No. TLP-11-0023
2010	State of Louisiana Temporary Registration
2010-2011	State of Washington Psychology Temporary Permit (Credential #: TE 60072389)
2010	State of Texas Psychology Temporary License No. TLP-10-0019
2009-2010	State of Washington Psychology Permit (Credential #: TE 60072389)
2007	State of Texas Psychology Temporary License No. TLP-07-0014; TLP-07-0015
2007	State of Texas Psychology Temporary License No. TLP-07-0009; TLP-07-0012
2003-2004	State of Washington Psychology Permit (030503)
2002-2004	State of Oregon Psychology Permit (LP 077)
2001-2002	State of Washington Psychology Permit (010903)
1992-1994	Qualified Medical Examiner / Psychology (State of California Industrial Medical Council # 009321)

*References on request*

**APPENDIX 2**  
**Ledell Lee, Jr.**  
**Neuropsychological Domain Scores**  
**Dale G. Watson, Ph.D.**  
**4/13/2017**

**Ledell Lee, Jr.**  
**Neuropsychological Domain Scores**  
**Dale G. Watson, Ph.D.**  
**4/13/2017**

**Performance Validity**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b>Test of Memory Malingering (TOMM)</b>			
<i>TOMM Trial 1 (Cutoff &gt;44 of 50)</i>	<i>47</i>		<i>wnl</i>
<i>TOMM Trial 2 (Cutoff &gt; 44 of 50)</i>	<i>50</i>		<i>wnl</i>
<b>Advanced Clinical Solutions Effort Assessment</b>			
<i>Reliable Digit Span (Cutoff &gt; 6)</i>	<i>10</i>		<i>wnl</i>
<b>Meyers Embedded Validity Scales (Failed of 10)</b>	<i>1</i>		<i>wnl</i>

**Halstead-Reitan Battery Summary Scores (HRBSUM)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b>General Neuropsychological Deficit Scale (GNDS)</b>	<b>39</b>		<b>Mild Impairment</b>
<i>Left Neuropsychological Deficit Scale (LNDS)</i>	<i>6</i>		<i>Elevated</i>
<i>Right Neuropsychological Deficit Scale (RNDS)</i>	<i>8</i>		<i>Elevated</i>
<b>Average Impairment Scale (AIR)</b>	<b>54</b>	<b>66</b>	<b>Average</b>
<b>Global Deficit Scale (GDS)</b>	<b>56</b>	<b>73</b>	<b>Average</b>

*Note: T scores have a mean of 50 and a standard deviation of 10.*

**Ledell Lee, Jr.**  
**Neuropsychological Domain Scores**  
**Dale G. Watson, Ph.D.**  
**4/13/2017**

**Wechsler Adult Intelligence Scale, Fourth Edition (WAIS-IV)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b>COMPOSITE INDICES</b>			
<i>Full Scale IQ (FSIQ)</i>	<b>82</b>	<b>12</b>	<b>Low Average</b>
<i>General Ability Index (GAI)</i>	<b>79</b>	<b>8</b>	<b>Borderline</b>
<i>Cognitive Proficiency Index (CPI)</i>	<b>91</b>	<b>27</b>	<b>Average</b>
<b>INDEX SCORES</b>			
<i>Verbal Comprehension Index (VCI)</i>	<b>87</b>	<b>19</b>	<b>Low Average</b>
<i>Similarities</i>	5	5	<b>Borderline</b>
<i>Vocabulary</i>	10	50	<b>Average</b>
<i>Information</i>	8	25	<b>Average</b>
<i>Working Memory Index (WMI)</i>	<b>92</b>	<b>30</b>	<b>Average</b>
<i>Arithmetic</i>	9	37	<b>Average</b>
<i>Digit Span</i>	8	25	<b>Average</b>
<i>Letter-Number Sequencing*</i>	9	37	<b>Average</b>
<i>Perceptual Reasoning Index (PRI)</i>	<b>75</b>	<b>5</b>	<b>Borderline</b>
<i>Block Design</i>	6	9	<b>Low Average</b>
<i>Visual Puzzles</i>	6	9	<b>Low Average</b>
<i>Matrix Reasoning</i>	5	5	<b>Borderline</b>
<i>Figure Weights*</i>	4	2	<b>Borderline</b>
<i>Picture Completion*</i>	9	37	<b>Average</b>
<i>Processing Speed Index (PSI)</i>	<b>92</b>	<b>30</b>	<b>Average</b>
<i>Symbol Search</i>	8	25	<b>Average</b>
<i>Coding</i>	9	37	<b>Average</b>
<i>Cancellation*</i>	6	9	<b>Low Average</b>



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Scale	Score	Percentile	Range
<b>KEITH FACTORS</b>			
<i>Crystallized Intelligence (Gc)</i>	95	37	<i>Average</i>
<i>Short-Term Memory (Gsm)</i>	92	30	<i>Average</i>
<i>Fluid Reasoning (Gf)</i>	69	2	<i>Extremely Low</i>
<i>Visual Processing (Gv)</i>	78	7	<i>Borderline</i>
<i>Processing Speed (Gs)</i>	92	30	<i>Average</i>

Note: Index scores have a mean of 100 and a standard deviation of 15. Scaled scores have a mean of 10 and a standard deviation of 3.

\* These tests are conceptually related to the factor indexes under which they appear but are not used to compute the factor index.

**Wide Range Achievement Test, Fourth Edition (WRAT-4)**

Scale	Std. Score	Percentile	Range
<i>Word Reading</i>	83	13	<i>Low Average</i>
<i>Sentence Comprehension</i>	84	14	<i>Low Average</i>
<i>Math Computation</i>	84	14	<i>Low Average</i>
<i>Reading Composite</i>	81	10	<i>Low Average</i>

Note: Standard scores have a mean of 100 and a standard deviation of 15.

**Attention (Registration/Encoding)**

Scale	Score	Percentile	Range
<i>Digits Forward (Raw)</i>	7		<i>wnl</i>
<i>CVLT-II Trial 1 (Raw))</i>	4	7	<i>Mildly Impaired</i>
<i>CVLT-II Trial B (Raw)</i>	4	16	<i>Below Average</i>
<i>Rey AVLT Trial 1 (Raw)</i>	5	42	<i>Average</i>
<i>Rey AVLT Trial B (Raw)</i>	5	42	<i>Average</i>
<i>Forced Choice (Free Recall) (raw score)</i>	5	0.6	<i>Moderate-Severe Impairment</i>
<i>WMS-IV LM 1 (Scaled Score)</i>	8	25	<i>Low Average</i>
<i>Sentence Repetition (Raw)</i>	12	18	<i>Below Average</i>

Note: Scaled scores have a mean of 10 and a standard deviation of 3. z scores have a mean of 0 and a standard deviation of 1. T scores have a mean of 50 and a standard deviation of 10.

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**Attention (Focus/Execute)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<i>Trails A (t Score)</i>	54	66	<i>Average</i>
<i>Trails B (t Score)</i>	61	86	<i>High Average</i>
<i>WAIS-IV Coding (Scale Score)</i>	9	37	<i>Average</i>
<i>WAIS-IV Symbol Search (Scale Score)</i>	8	25	<i>Low Average</i>

*Note:* T scores have a mean of 50 and a standard deviation of 10. Scaled scores have a mean of 10 and a standard deviation of 3.

**Attention (Attentiveness/ Sustaining/ Vigilance) Conners Continuous Performance Test**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b>Inattentiveness</b>			
<i>Detectability (d')</i>	41	18	<i>Low</i>
<i>Omissions</i>	45	31	<i>Average</i>
<i>Commissions</i>	44	27	<i>Low</i>
<i>Hit Response Time (HRT)</i>	43	24	<i>Low</i>
<i>HRT SD</i>	43	24	<i>Low</i>
<i>Variability</i>	40	16	<i>Low</i>
<b>Distractibility</b>			
<i>HRT Block Change</i>	45	31	<i>Average</i>
<b>Inconsistency</b>			
<i>Inter-stimulus Intervals Change (HRT-ISI)</i>	42	21	<i>Low</i>

*Note:* T scores have a mean of 50 and a standard deviation of 10. Low scores represent better performance.

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**Learning and Memory Domain**

**California Verbal Learning Test, Second Edition (CVLT-II)**

<b>Scale</b>	<b>Raw Score</b>	<b>z-Score</b>	<b>Percentile</b>	<b>Range</b>
<i>Trial 1 (z Score)</i>	4	-2	2	<i>Very Low</i>
<i>Trial 2 (z Score)</i>	6	-1	16	<i>Low Average</i>
<i>Trial 3 (z Score)</i>	9	-1	16	<i>Low Average</i>
<i>Trial 4 (z Score)</i>	9	-1	16	<i>Low Average</i>
<i>Trial 5 (z Score)</i>	8	-1	16	<i>Low Average</i>
<i>Trials 1-5 Total (t Score)</i>	42	42	21	<i>Low Average</i>
<i>Trial B (z Score)</i>	4	-1	16	<i>Low Average</i>
<i>Short Delay Free Recall (z Score)</i>	8	-1	16	<i>Low Average</i>
<i>Short Delay Cued Recall (z Score)</i>	10	0	50	<i>Average</i>
<i>Long Delay Free Recall (z Score)</i>	8	-1	16	<i>Low Average</i>
<i>Long Delay Cued Recall (z Score)</i>	9	-1	16	<i>Low Average</i>
<i>Total Repetitions (z Score)*</i>	8	1	84	<i>High Average</i>
<i>Total Intrusions (z Score)*</i>	15	2	98	<i>Very High</i>
<i>Total Hits (Recognition) (z Score)</i>	13	-1	16	<i>Low Average</i>
<i>Total False Positives (z Score)*</i>	11	3	99.9	<i>Extremely High</i>

*Note:* z scores have a mean of 0 and a standard deviation of 1. T scores have a mean of 50 and a standard deviation of 10.

\* Higher z Scores represent poorer performance on these scales.

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**Rey Auditory Verbal Learning Test (R-AVLT)**

<b>Scale</b>	<b>Raw Score</b>	<b>T-Score</b>	<b>Percentile</b>	<b>Range</b>
<i>Trial 1 (t Score)</i>	5	48	42	<i>Average</i>
<i>Trial 2 (t Score)</i>	7	45	31	<i>Average</i>
<i>Trial 3 (t Score)</i>	6	32	4	<i>Moderate Impairment</i>
<i>Trial 4 (t Score)</i>	9	42	21	<i>Below Average</i>
<i>Trial 5 (t Score)</i>	7	28	1	<i>Moderate Impairment</i>
<i>AVLT Total (t Score)</i>	35	35	7	<i>Mild Impairment</i>
<i>Trial B (Distracter) (t Score)</i>	5	48	42	<i>Average</i>
<i>AVLT Immediate (t Score)</i>	5	32	4	<i>Moderate Impairment</i>
<i>AVLT Delayed (t Score)</i>	4	33	4	<i>Moderate Impairment</i>
<i>AVLT Recognition (t Score)</i>	8	20	0.1	<i>Moderate to Severe Impairment</i>
<i>AVLT False Positives (t Score)</i>	6	1	0.01	<i>Severe Impairment</i>
<i>Long Term % Retention (LTPR) (t Score)</i>	30	30	2	<i>Moderate Impairment</i>
<i>AVLT (Learning) Efficiency Index (MAVLEI) (t Score)</i>	29	29	2	<i>Moderate Impairment</i>

*Note:* T scores have a mean of 50 and a standard deviation of 10.

**Rey Complex Figure Test (RCFT)**

<b>Scale</b>	<b>T-Score</b>	<b>Percentile</b>	<b>Range</b>
<i>RCFT Copy (t Score)</i>	1	0.01	<i>Severe Impairment</i>
<i>RCFT Immediate (t Score)</i>	19	0.1	<i>Severe Impairment</i>
<i>RCFT Delayed Recall (t Score)</i>	17	0.05	<i>Severe Impairment</i>
<i>RCFT Recognition (t Score)</i>	29	2	<i>Moderate Impairment</i>
<i>RCFT False Positives (t Score)</i>	45	31	<i>Average</i>
<i>RCFT False Negatives (t Score)</i>	29	2	<i>Moderate Impairment</i>

*Note:* T scores have a mean of 50 and a standard deviation of 10.

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**Brown Location Test (BLT)**

<b>Scale</b>	<b>Z-Score</b>	<b>Percentile</b>	<b>Range</b>
<i>Trial 1 Free Recall (z Score)</i>	-2	2	<i>Very Low</i>
<i>Trial 2 Free Recall (z Score)</i>	-2	2	<i>Very Low</i>
<i>Trial 3 Free Recall (z Score)</i>	-2	2	<i>Very Low</i>
<i>Trial 4 Free Recall (z Score)</i>	-2	2	<i>Very Low</i>
<i>Trial 5 Free Recall (z Score)</i>	-1	16	<i>Low Average</i>
<i>Trials 1 - 5 Free Recall Total (z Score)</i>	-2	2	<i>Very Low</i>
<i>Interference Trial Correct (z Score)</i>	-2	2	<i>Very Low</i>
<i>Short Delay Free Recall Correct (z Score)</i>	-3	0.1	<i>Extremely Low</i>
<i>Long Delay Free Recall Correct (z Score)</i>	-1	16	<i>Low Average</i>
<i>Long Delay Rotated Free Recall Correct (z Score)</i>	-1	16	<i>Low Average</i>
<i>Recognition Total Correct (z Score)</i>	-2	2	<i>Very Low</i>
<i>Recognition True Positives "Hits" (z Score)</i>	0	50	<i>Average</i>
<i>Recognition False Positives (z Score)</i>	2	98	<i>Very High</i>

Note: z scores have a mean of 0 and a standard deviation of 1.

**Ruff-Light Trail Learning Test (RULIT)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b><i>Learning</i></b>			
<i>Total Correct</i>	33	4	<i>Moderate Impairment</i>
<i>Total Step Errors</i>	35	7	<i>Mild Impairment</i>
<b><i>Immediate Memory</i></b>			
<i>Trial 2 Correct</i>	29	2	<i>Moderate Impairment</i>
<i>Trial 2 Errors</i>	12		<i>Deficient</i>
<b><i>Delayed Memory</i></b>			
<i>Delayed Correct</i>	14		<i>Intact/Average</i>
<i>Delayed Errors</i>	1		<i>Intact/Average</i>

Note: T scores have a mean of 50 and a standard deviation of 10.

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**Wechsler Memory Scale - IV Flexible Approach (WMS-IV Flex)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<i>Immediate Memory (LMVR) (Standard Score)</i>	<b>88</b>	<b>21</b>	<i>Low Average</i>
<i>Delayed Memory (LMVR) (Standard Score)</i>	<b>88</b>	<b>21</b>	<i>Low Average</i>
<i>Auditory Memory (LM) (Standard Score)</i>	<b>88</b>	<b>21</b>	<i>Low Average</i>
<i>Visual Memory (VR) (Standard Score)</i>	<b>92</b>	<b>30</b>	<i>Average</i>
<i>Logical Memory I (Scaled Score)</i>	<b>8</b>	<b>25</b>	<i>Average</i>
<i>Logical Memory II (Scaled Score)</i>	<b>7</b>	<b>16</b>	<i>Low Average</i>
<i>Visual Reproduction I (Scaled Score)</i>	<b>8</b>	<b>25</b>	<i>Average</i>
<i>Visual Reproduction II (Scaled Score)</i>	<b>9</b>	<b>37</b>	<i>Average</i>

*Note:* Index scores have a mean of 100 and a standard deviation of 15. Scaled scores have a mean of 10 and a standard deviation of 3.

**Language Domain**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b><i>Language Functions</i></b>			
<i>Aphasia Screening Test (t Score)</i>	<b>62</b>	<b>88</b>	<i>High Average</i>
<b><i>Receptive Language / Comprehension</i></b>			
<i>Token Test (t Score)</i>	<b>41</b>	<b>18</b>	<i>Low Average</i>
<b><i>Repetition</i></b>			
<i>Sentence Repetition (t Score)</i>	<b>41</b>	<b>18</b>	<i>Low Average</i>
<b><i>Expressive Language</i></b>			
<i>WAIS-IV Vocabulary (Scaled Score)</i>	<b>10</b>	<b>50</b>	<i>Average</i>
<i>WAIS-IV Similarities (Scaled Score)</i>	<b>5</b>	<b>5</b>	<i>Low</i>
<b><i>Confrontational Naming</i></b>			
<i>Boston Naming Test (t Score)</i>	<b>46</b>	<b>34</b>	<i>Average</i>
<b><i>Verbal / Ideational Fluency</i></b>			
<i>D-KEFS Letter Fluency (Scaled Score)</i>	<b>9</b>	<b>37</b>	<i>Average</i>
<i>D-KEFS Category Fluency (Scaled Score)</i>	<b>13</b>	<b>84</b>	<i>High Average</i>

*Note:* Scaled scores have a mean of 10 and a standard deviation of 3. T scores have a mean of 50 and a standard deviation of 10.

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**VISUAL-SPATIAL DOMAIN (VISUAL)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b><i>Object Identification/Recognition Functions</i></b>			
<i>Boston Naming Test (BNT) (t Score)</i>	46	34	<i>Average</i>
<b><i>Object Location Functions</i></b>			
<i>Judgment of Line Orientation (JOLO) (t Score)</i>	39	14	<i>Low Average</i>
<i>Tactual Performance Test (TPT) Localization (t Score)</i>	44	27	<i>Average</i>
<b><i>Construction Functions</i></b>			
<i>RCFT- Copy (t Score)</i>	1	0.01	<i>Extremely Low</i>
<i>Block Design (Scaled Score)</i>	6	9	<i>Low</i>
<i>Visual Puzzles (Scaled Score)</i>	6	9	<i>Low</i>

*Note:* T scores have a mean of 50 and a standard deviation of 10. Scaled scores have a mean of 10 and a standard deviation of 3.

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**SENSORY-MOTOR FUNCTIONS**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b>Motor Functions</b>			
<i>Finger Tapping Dominant (t Score)</i>	50	50	<i>Average</i>
<i>Finger Tapping NonDominant (t Score)</i>	53	62	<i>Average</i>
<i>Hand Dynamometer Dominant (t Score)</i>	44	27	<i>Below Average</i>
<i>Hand Dynamometer NonDominant (t Score)</i>	49	46	<i>Average</i>
<i>Grooved Pegboard Dominant (t Score)</i>	54	66	<i>Average</i>
<i>Grooved Pegboard NonDominant (t Score)</i>	50	50	<i>Average</i>
<i>Tactual Performance Test Dominant (t Score)</i>	54	66	<i>Average</i>
<i>Tactual Performance Test NonDominant (t Score)</i>	47	38	<i>Average</i>
<i>Tactual Performance Test Both (t Score)</i>	45	31	<i>Average</i>
<b>Sensory Functions</b>			
<i>Sensory-Perceptual Right (t Score)</i>	62	88	<i>Above Average</i>
<i>Tactile Stimulation Right (raw score)</i>	0		<i>wnl</i>
<i>Auditory Stimulation Right (raw score)</i>	0		<i>wnl</i>
<i>Visual Stimulation Right (raw score)</i>	0		<i>wnl</i>
<i>Tactile Finger Recognition Right (raw score)</i>	1		<i>wnl</i>
<i>Finger-tip Number Writing Right (raw score)</i>	0		<i>wnl</i>
<i>Sensory Perceptual Left (t Score)</i>	67	96	<i>Above Average</i>
<i>Tactile Stimulation Left (raw score)</i>	0		<i>wnl</i>
<i>Auditory Stimulation Left (raw score)</i>	0		<i>wnl</i>
<i>Visual Stimulation Left (raw score)</i>	0		<i>wnl</i>
<i>Tactile Finger Recognition Left (raw score)</i>	0		<i>wnl</i>
<i>Finger-tip Number Writing Left (raw score)</i>	0		<i>wnl</i>
<i>Tactile Form Recognition Right (t Score)</i>	54	66	<i>Average</i>
<i>Tactile Form Recognition Right Errors (raw score)</i>	0		<i>wnl</i>
<i>Tactile Form Recognition Left (t Score)</i>	43	24	<i>Below Average</i>
<i>Tactile Form Recognition Left Errors (raw score)</i>	0		<i>wnl</i>

Note: T scores have a mean of 50 and a standard deviation of 10.



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**Executive Functions**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b>Working Memory</b>			
WAIS-IV Working Memory Index			
<i>Digits Backwards (Scale Score)</i>	7	16	<i>Low Average</i>
<i>Digit Sequencing (Scale Score)</i>	7	16	<i>Low Average</i>
<i>Arithmetic (Scale Score)</i>	9	37	<i>Average</i>
<i>Letter Number Sequencing (Scale Score)</i>	9	37	<i>Average</i>
<i>One Minute Estimation</i>	38	12	<i>Low Average</i>
Auditory Consonant Trigrams			
<i>9-s Delay (t Score)</i>	50	50	<i>Average</i>
<i>18-s Delay (t Score)</i>	42	21	<i>Low Average</i>
<i>36-s Delay (t Score)</i>	49	46	<i>Average</i>
<b>Planning</b>			
D-KEFS Tower Test			
<i>Total Achievement Score (Scale Score)</i>	13	84	<i>High Average</i>
<i>Total Rule Violations (Raw)</i>	1		<i>wnl</i>
<i>Mean First Move Time (Scale Score)*</i>	14	91	<i>High</i>
Neuropsychological Assessment Battery (NAB)			
<i>Mazes</i>	39	14	<i>Mildly Impaired</i>
<b>Inhibition</b>			
<i>Conners CPT Commission Errors (t Score)*</i>	44	27	<i>Average</i>

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Scale	Score	Percentile	Range
<b>Shifting</b>			
Wisconsin Card Sorting Test (WCST)			
<i>Trials Administered (raw score)</i>	128		
<i>Total Correct (raw score)</i>	40		
<i>Total Errors (t Score)</i>	20	0.1	<i>Moderate to Severe Impairment</i>
<i>Perseverative Responses (t Score)</i>	39	14	<i>Mild Impairment</i>
<i>Perseverative Errors (t Score)</i>	37	10	<i>Mild Impairment</i>
<i>Nonperseverative Errors (t Score)</i>	20	0.1	<i>Moderate to Severe Impairment</i>
<i>% Conceptual Level Responses (t Scores)</i>	20	0.1	<i>Moderate to Severe Impairment</i>
<i>Categories Completed (of 6)</i>	0	$\leq 1$	<i>Moderate Impairment</i>
<i>Trials to Complete 1st Category</i>	129	2-5%	<i>Mild to Moderate Impairment</i>
<i>Failure to Maintain Set</i>	0	N/A	
Trail Making B			
<i>Time (Scaled Score)</i>	9	38	<i>Average</i>
<i>Errors (raw score)</i>	1		<i>wnl</i>
<b>Concept Formation</b>			
<i>Halstead Category Test (raw score)</i>	99	2	<i>Mild to Moderate Impairment</i>
<i>WCST Conceptual Level Responses (t Scores)</i>	20	0.1	<i>Moderate to Severe Impairment</i>
<i>Vocabulary (Scale Score)</i>	10	50	<i>Average</i>
<i>Similarities (Scale Score)</i>	5	5	<i>Mild to Moderate Impairment</i>
D-KEFS Twenty Questions Test			
<i>Initial Abstraction Score (Scale Score)</i>	10	50	<i>Average</i>
<i>Total Weighted Achievement Score (Scale Score)</i>	10	50	<i>Average</i>
<b>Idea Generation</b>			
<i>WCST Categories Completed</i>	0	$\leq 1$	<i>Moderately Impaired</i>

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<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<i>WCST Trials to Complete 1st Category</i>	<i>129</i>	<i>2-5</i>	<i>Mild to Moderately Impaired</i>
<i>D-KEFS Letter Fluency (Scale Score)</i>	<i>9</i>	<i>37</i>	<i>Average</i>
<i>D-KEFS Category Fluency (Scale Score)</i>	<i>13</i>	<i>84</i>	<i>High Average</i>
<i>D-KEFS Filled Dots (Scale Score)</i>	<i>12</i>	<i>75</i>	<i>High Average</i>
<i>D-KEFS Empty Dots Only (Scale Score)</i>	<i>9</i>	<i>37</i>	<i>Average</i>
<b>Reward Delay (Iowa Gambling Task)</b>			
<i>Net Total (t Score)</i>	<i>45</i>	<i>31</i>	<i>Average</i>
<i>Net 1 (t Score)</i>	<i>59</i>	<i>82</i>	<i>High Average</i>
<i>Net 2 (t Score)</i>	<i>49</i>	<i>46</i>	<i>Average</i>
<i>Net 3 (t Score)</i>	<i>42</i>	<i>21</i>	<i>Low Average</i>
<i>Net 4 (t Score)</i>	<i>42</i>	<i>21</i>	<i>Low Average</i>
<i>Net 5 (t Score)</i>	<i>45</i>	<i>31</i>	<i>Average</i>

Note: T scores have a mean of 50 and a standard deviation of 10. Scaled scores have a mean of 10 and a standard deviation of 3.

**Delis-Kaplan Executive Function System (DKEFS)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<b><i>Verbal Fluency Test</i></b>			
<i>Letter Fluency</i>	<i>9</i>	<i>37</i>	<i>Average</i>
<i>Category Fluency</i>	<i>13</i>	<i>84</i>	<i>High Average</i>
<i>Category Switching</i>	<i>11</i>	<i>63</i>	<i>Average</i>
<b><i>Design Fluency</i></b>			
<i>Filled Dots</i>	<i>12</i>	<i>75</i>	<i>High Average</i>
<i>Empty Dots</i>	<i>9</i>	<i>37</i>	<i>Average</i>
<i>Switching</i>	<i>6</i>	<i>9</i>	<i>Low Average</i>
<b><i>Twenty Questions Test Total Weighted Achievement</i></b>	<b><i>10</i></b>	<b><i>50</i></b>	<b><i>Average</i></b>
<b><i>Tower Test Total Achievement</i></b>	<b><i>13</i></b>	<b><i>84</i></b>	<b><i>High Average</i></b>
<b><i>Proverbs</i></b>	<b><i>8</i></b>	<b><i>25</i></b>	<b><i>Average</i></b>

Note: Scaled scores have a mean of 10 and a standard deviation of 3.

**Ledell Lee, Jr.**  
**Neuropsychological Domain Scores**  
**Dale G. Watson, Ph.D.**  
**4/13/2017**

**Advanced Clinical Solutions for the WAIS-IV and WMS-IV Social Cognition Test (SCT)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
Social Cognition			
<i>Social Perception</i>	8	25	<i>Low Average</i>
<i>Social Perception Affect Naming</i>	12	75	<i>High Average</i>
<i>Social Perception Prosody</i>	6	9	<i>Low</i>
<i>Social Perception Pairs</i>	7	16	<i>Low Average</i>

*Note:* Scaled scores have a mean of 10 and a standard deviation of 3.

**Behavior Rating Inventory of Executive Function Adult Version (BRIEF-A)**

<b>Scale</b>	<b>Score</b>	<b>Percentile</b>	<b>Range</b>
<i>Inhibit</i>	70	98	<i>Very High</i>
<i>Shift</i>	67	96	<i>High</i>
<i>Emotional Control</i>	69	97	<i>High</i>
<i>Self-Monitor</i>	65	93	<i>High</i>
<b><i>Behavioral Regulation Index (BRI)</i></b>	<b>72</b>	<b>99</b>	<b><i>Very High</i></b>
<i>Initiate</i>	67	96	<i>High</i>
<i>Working Memory</i>	74	99.2	<i>Very High</i>
<i>Plan/Organize</i>	75	99.4	<i>Very High</i>
<i>Task Monitor</i>	72	99	<i>Very High</i>
<i>Organization of Materials</i>	57	76	<i>High Average</i>
<b><i>Metacognition Index (MI)</i></b>	<b>72</b>	<b>99</b>	<b><i>Very High</i></b>
<b><i>Global Executive Composite (GEC)</i></b>	<b>74</b>	<b>99.2</b>	<b><i>Very High</i></b>
<b><i>Validity Scales</i></b>			<b><i>Acceptable</i></b>

*Note:* T scores have a mean of 50 and a standard deviation of 10. On the BRIEF-A, elevations represent greater abnormality and impairment. Scores over 65t are considered clinically significant.



For people with intellectual  
and developmental disabilities

April 18, 2017

Governor Asa Hutchinson  
State Capitol Room 250  
Governor's Office  
500 Woodlane Ave.  
Little Rock, AR 72201

**RE: Clemency for Ledell Lee**

Dear Governor Hutchinson:

I write on behalf of The Arc of the United States (The Arc) to urge you to commute the death sentence of Ledell Lee pending a full clinical evaluation to determine whether Mr. Lee has an intellectual disability (ID). The Arc is a national non-profit organization which, for over 65 years, has sought to promote and protect the civil and human rights of individuals with intellectual and developmental disabilities through the work of its national office and over 650 state and local chapters throughout the country. Through its National Center on Criminal Justice and Disability<sup>®</sup>, The Arc seeks justice for those with ID who find themselves entangled in the criminal justice system, often without necessary accommodations or understanding of their disability.

The Arc has deep sympathy for the family and friends of the victims in this case, and we support appropriate punishment of all responsible parties. However, Mr. Lee's history is replete with evidence indicating a potential ID diagnosis, which would bring him under the protection of the United States Supreme Court's decisions in *Atkins v. Virginia*, 536 U.S. 304 (2002), *Hall v. Florida*, 134 S. Ct. 1986 (2014), and the more recent decision in *Moore v. Texas*, No. 15-797, slip op. (U.S. Mar. 28, 2017).

The Arc  
1825 K Street NW, Suite 1200  
Washington, DC 20006

T 202 534-300  
F 202 534-3731  
www.thearc.org

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DLA Piper, Seattle, WA

Chief Executive Officer  
Peter V. Berns



In its 2002 *Atkins* decision, the U.S. Supreme Court recognized the special risk of wrongful execution faced by persons with ID (formerly termed “mental retardation”) and banned the execution of persons with ID as cruel and unusual punishment under the Eighth Amendment, noting that individuals with ID “do not act with the level of moral culpability that characterizes the most serious adult criminal conduct” and that “[n]o legitimate penological purpose is served by executing a person with intellectual disability...to impose the harshest of punishments on an intellectually disabled person violates his or her inherent dignity as a human being.” In its 2014 *Hall* decision, the U.S. Supreme Court further clarified its decision that people with ID not be executed in violation of the Constitution, requiring that adaptive behavior evidence, beyond IQ test scores alone, be taken into account when determining whether an individual has ID. The more recent *Moore* case further confirms adaptive behavior criteria as necessary in determining whether someone meets diagnostic criteria for ID, and that such criteria must comport with modern clinical and scientific understanding of ID.

The evidence presented by the neuropsychological expert in this case, Dr. Dale Watson, supports the conclusion that if Mr. Lee undergoes a full evaluation, he will likely meet the three prongs of an ID diagnosis: (1) significantly impaired intellectual functioning; (2) adaptive behavior deficits in conceptual, social, and practical adaptive skills; and (3) origination of the disability before the age of 18. In order to complete his analysis, Mr. Lee’s adaptive deficits and history during the developmental period (before age 18) need to be fully assessed. Individuals with ID—like everyone else—differ substantially from one another. For each person with ID there will be things he or she cannot do but also many things he or she *can* do. Because the mixture of skill strengths and skill deficits varies widely among persons with ID, there is no clinically accepted list of common, ordinary strengths or abilities that would preclude a diagnosis of ID. Thus, the focus in assessing an individual’s adaptive behavior must be on deficits. As recently confirmed in *Moore*, adaptive strengths are irrelevant to this analysis and IQ alone cannot paint a full picture of whether a person has an ID. Thus, we urge that Mr. Lee receive a full evaluation for ID to determine whether he may be eligible for the *Atkins* constitutional protection from the death penalty.

Given the high likelihood of ID in this case, it is troubling that the lawyers who represented Mr. Lee throughout his trial failed to properly investigate evidence of Mr. Lee’s potential ID. As a result, no evidence of Mr. Lee’s potential disability was presented to the jury during the sentencing phase of his trial. If a full evaluation confirms Mr. Lee’s suspected diagnosis of ID, then Mr. Lee’s death sentence violates current prohibitions against cruel and unusual punishment as set forth in the U.S. Supreme Court decisions in *Atkins*, *Hall*, and *Moore*.

The Arc does not seek to eliminate punishment of Mr. Lee or others with disabilities, but rather, to ensure that justice is served and the rights of all parties are protected. The Arc is committed to seeking lawful outcomes for people with ID and will continue working to ensure