



ORIGINAL

Case No. F-2016-62

IN THE COURT OF CRIMINAL APPEALS OF THE STATE OF OKLAHOMA

FILED

**IN COURT OF CRIMINAL APPEALS
STATE OF OKLAHOMA**

FEB - 1 2017

**MICHAEL S. RICHIE
CLERK**

DANIEL K. HOLTZCLAW

Appellant,

vs.

THE STATE OF OKLAHOMA

Appellee.

Appeal from the
District Court of Oklahoma County

**APPLICATION FOR EVIDENTIARY HEARING
ON SIXTH AMENDMENT CLAIMS**

James H. Lockard
Deputy Division Chief
Oklahoma Bar Assoc. No. 18099

Michael D. Morehead
Appellate Defense Counsel
Oklahoma Bar Assoc. No. 18114

Homicide Direct Appeals Division
Oklahoma Indigent Defense System
P.O. Box 926
Norman, Oklahoma 73070
(405) 801-2666

ATTORNEYS FOR APPELLANT

February 1, 2017

Case No. F-2016-62

IN THE COURT OF CRIMINAL APPEALS OF THE STATE OF OKLAHOMA

DANIEL K. HOLTZCLAW

Appellant,

vs.

THE STATE OF OKLAHOMA

Appellee.

Appeal from the
District Court of Oklahoma County

**APPLICATION FOR EVIDENTIARY HEARING
ON SIXTH AMENDMENT CLAIMS**

James H. Lockard
Deputy Division Chief
Oklahoma Bar Assoc. No. 18099

Michael D. Morehead
Appellate Defense Counsel
Oklahoma Bar Assoc. No. 18114

Homicide Direct Appeals Division
Oklahoma Indigent Defense System
P.O. Box 926
Norman, Oklahoma 73070
(405) 801-2666

ATTORNEYS FOR APPELLANT

February 1, 2017

IN THE COURT OF CRIMINAL APPEALS OF THE STATE OF OKLAHOMA

DANIEL K. HOLTZCLAW)
)
 Appellant,)
)
 v.) **Case No. F-2016-62**
)
 THE STATE OF OKLAHOMA,)
)
 Appellee.)

**APPLICATION FOR EVIDENTIARY HEARING
ON SIXTH AMENDMENT CLAIMS**

Appellant, Daniel K. Holtzclaw, by and through his appellate counsel and in accordance with Rule 3.11(B)(3)(b), *Rules of the Oklahoma Court of Criminal Appeals*, Title 22, Ch. 18, App. (2011), respectfully applies to the Court for an evidentiary hearing on Sixth Amendment claims of ineffective assistance of trial counsel. Rule 3.11(B)(3)(b) provides:

When an allegation of the ineffective assistance of trial counsel is predicated upon an allegation of failure to utilize available evidence or adequately investigate to identify evidence which could have been made available during the course of the trial, and a proposition of error alleging ineffective assistance of trial counsel is raised in the brief-in-chief of Appellant, appellate counsel may submit an application for an evidentiary hearing, together with affidavits setting out those items alleged to constitute ineffective assistance of trial counsel.

In his Brief of Appellant, filed contemporaneously with this Application, Mr. Holtzclaw raised an issue relating to the ineffectiveness of his trial counsel. See Proposition V of the Brief of Appellant. This Application sets forth the factual basis appearing outside the record of that proceeding supporting this Sixth Amendment claim, and requests that the Court grant an evidentiary hearing so these factual matters can become part of the record. In support of this Application, counsel submits the following document, which is attached:

(A) Affidavit of Dr. Michael J. Spence, Ph.D.

This item, not yet part of the record on appeal, supports Mr. Holtzclaw's

claim that his trial counsel was ineffective for failing to investigate and use extant, relevant evidence, by way of his own expert witness, which would have called attention to misstatements of fact by the State's own expert witness, as well as bolstered an alternate, and innocent, explanation for the presence of one alleged victim's DNA on Mr. Holtzclaw's uniform trousers, thereby preventing important information from reaching Mr. Holtzclaw's jury.

In order to prevail on this claim, Appellant must first show that trial counsel's performance fell below an objective standard of reasonableness. *Strickland v. Washington*, 466 U.S. 668, 688, 104 S.Ct. 2052, 2064, 80 L.Ed.2d 674 (1984). Trial counsel's function to assist the defendant imposed upon him a duty to fully investigate the case in furtherance of "the overarching duty to advocate the defendant's cause." *Id.* at 688, 104 S.Ct. at 2064-65. Ultimately, counsel had a duty "to bring to bear such skill and knowledge as will render the trial a reliable adversarial testing process." *Id.* As this Application demonstrates, counsel failed in this duty. Mr. Holtzclaw, therefore, respectfully urges the Court to grant an evidentiary hearing to supplement his record on appeal so that all his Sixth Amendment claims may be fully supported by the evidence the attached exhibit conclusively shows is present.

A key piece of evidence at Mr. Holtzclaw's trial was the presence of Adaira Gardner's DNA on the inside and outside of the zipper area of Officer Holtzclaw's uniform trousers. (Tr. 4028-29, 4040-42, 4059, 4062-63; St. Exh. 359) In addition to Ms. Gardner's DNA, DNA from other, unknown individuals was also present on the zipper area of Officer Holtzclaw's pants. (St. Exh. 359) According to Oklahoma City Police chemist Elaine Taylor, Ms. Gardner's DNA could have gotten on Officer Holtzclaw's uniform by way of "secondary transfer" after searching her purse. (Tr. 4075-78) However, this innocent explanation of the presence of Ms. Gardner's DNA on Officer Holtzclaw's pants was undermined when she agreed with the prosecutor

that it was more likely to have gotten there by way of a liquid medium, such as vaginal fluid, rather than through a transfer of just skin cells through touching. (Tr. 4073) This explanation was further reinforced when Ms. Taylor testified that, remarkably, none of Officer Holtzclaw's DNA was found on his own pants.

Elaine Taylor's testimony was not challenged in any meaningful way. Officer Holtzclaw's lawyers did not present an expert of their own to contradict any of her testimony. Neither did they utilize the powerful tool of cross examination accompanied by her own reports to call into question some of her conclusions. This failure to investigate, cross examine, and present powerful evidence deprived Mr. Holtzclaw of the effective assistance of counsel to which he was constitutionally guaranteed.

Attached to this Application as Exhibit "A" is the affidavit of Dr. Michael J. Spence, Ph.D. Dr. Spence examined the evidence, reports, and testimony relevant to the DNA issue in this case and has offered an opinion as to what could have been presented to Officer Holtzclaw's jury. According to Dr. Spence, there were several areas ripe for expert testimony. First, he points out that, contrary to Elaine Taylor's testimony that no male DNA was present on two of the four swabs taken from Officer Holtzclaw's uniform trousers, there was, in fact, male DNA present. (Exhibit A, ¶ 7) He also explained how Ms. Taylor's speculation that the DNA was more likely the result of a transfer via vaginal fluids rather than through a "dry" secondary transfer is not based on current scientific knowledge. (Exhibit A, ¶¶ 6,9) Dr. Spence also demonstrates how the data generated from the testing process, specifically the quantification data, actually supports the notion that the DNA transfer more likely resulted from a secondary transfer, rather than a direct, or primary, transfer, given the extremely modest amount of DNA recovered on the four swabs. (Exhibit A, ¶¶ 14, 17)

Dr. Spence also observes that, contrary to Ms. Taylor's testimony that Officer

Holtzclaw was excluded from any of the DNA found on his pants, the evidence was inconclusive on at least two swabs. (Exhibit A, ¶¶ 12, 13) As Dr. Spence explains, and is further discussed in the Brief, the lack of Officer Holtzclaw's own DNA on his own pants was used by the State to bolster their argument that a secondary transfer of DNA was unlikely.

Dr. Spence further opines that there were several areas of inquiry which could have been explored, but were not, regarding nagging questions revealed by the data. For instance, there was DNA from unidentified contributors, but the jury was never asked to consider this anomaly. (Exhibit A, ¶¶ 11, 12, 15) The fact is that the presence of unknown DNA in the same general area of Officer Holtzclaw's pants supports a theory of secondary transfer, as his hands likely came in contact with various surfaces throughout the day, any of which could have been repositories of DNA.

All of this information was readily available to trial counsel had they taken the time to fully explore the full spectrum of possibilities indicated by the DNA data. It appears that counsel simply accepted the presence of one alleged victim's DNA and chose to steer away from it, rather than present an expert to fully inform the jury of the actual state of the evidence, as indicated by the data. Furthermore, without expert testimony, the State was able, through serious misstatements by their own expert, to imply that the only way that the DNA got on Officer Holtzclaw's pants was through criminal behavior. In fact, the evidence suggests quite the opposite, but the jury was not informed, in any meaningful way, of this objective reality.

There can be no reasonable strategy ascribed to counsel's actions in failing to fully challenge the State's faulty and scientifically unsound presentation of the DNA evidence.

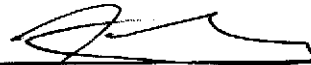
CONCLUSION

It is clear from the above extra-record claim of ineffectiveness of counsel, compounded by record claims asserted in Proposition V of his Brief, that Officer Holtzclaw was not afforded a meaningful test of the adversarial process in his trial, and that under *Strickland*, he has met his burden of meeting the two prongs in his case: that counsel's performance was deficient and that he was prejudiced such that there is a reasonable probability that, but for these errors, Officer Holtzclaw would not have been convicted of the crimes charged. Officer Holtzclaw respectfully, pursuant to Rule 3.11(B)(3)(b) of the *Rules* of this Court, and in consideration of his above arguments and attached exhibit, requests an evidentiary hearing to make full proof of his extra-record claims.

Respectfully submitted,


DANIEL K. HOLTZCLAW

By:



JAMES H. LOCKARD
Oklahoma Bar No. 18099
Deputy Division Chief

By:



MICHAEL D. MOREHEAD
Oklahoma Bar No. 18114
Appellate Defense Counsel

Homicide Direct Appeals Division
Oklahoma Indigent Defense System
P.O. Box 926
Norman, Oklahoma 73070-0926
(405) 801-2666

ATTORNEYS FOR APPELLANT

CERTIFICATE OF SERVICE

I certify that on the date of filing the above and foregoing instrument, a true and correct copy of the same was delivered to the Clerk of this Court with instructions to deliver said copy to the Office of the Attorney General of the State of Oklahoma.



JAMES H. LOCKARD

EXHIBIT "A"

Affidavit of Michael J. Spence, Ph.D.



County of Dona Ana)

State of New Mexico)

)
)
)
SS

AFFIDAVIT OF MICHAEL J. SPENCE, PH.D.

I, Michael J. Spence, Ph.D., declare and state as follows:

I. Introduction and Summary of Qualifications

1. I received my Bachelors of Science and Masters of Science degrees from the University of Texas at El Paso in 1983 and 1985, respectively. In December 1990, I earned my doctorate degree in Molecular Biology from New Mexico State University. My postdoctoral work focused on areas of cancer research, conducted at the University of Vermont, Department of Molecular Genetics, in Burlington, Vermont, and the Boise V.A. Medical Center, in Boise, Idaho.
2. From May 2003 through May 2007, I trained and worked as a Forensic Biologist with the Indiana State Police (ISP), Evansville Regional Laboratory. Working for the ISP, I examined over 100 criminal cases involving DNA. I departed Indiana and returned home to Las Cruces, New Mexico. For the next eight months, I served as the interim Technical Manager of Forensic Testing Laboratories, a start-up forensic DNA analysis company.
3. In February 2008, I launched my consulting company—Spence Forensic Resources. During my nine years of service as an independent forensic DNA consultant, and my four-year tenure at the ISP, I have reviewed over 800 cases involving the investigation of forensic biology and DNA. These cases have originated from over sixty different forensic DNA laboratories located in twenty-seven U.S. states. I have been qualified and I have testified as an expert DNA witness, both for the prosecution and the defense, in eighty-three trials and other proceedings in New Mexico, Arizona, Indiana, Maryland, Colorado, Florida, South Carolina, Michigan, and Texas. My Curriculum Vitae has been provided.
4. In April 2016, this case, *Daniel Holtzclaw v. State of Oklahoma*, was first brought to my attention. Appellate counsel representing Officer Holtzclaw expressed an interest in utilizing my expertise in forensic biology/DNA to examine various documents. These documents included, but were not limited to the following: Forensic Examination Reports—released by the Oklahoma City Police Department (OCPD) Crime Laboratory, analyst bench notes, worksheets from evidence examination, DNA extraction and quantification, electropherograms—which are graphical printouts of the DNA data, population statistical calculations, law enforcement investigative reports, and trial testimony transcripts and evidence. After completing my examination of these documents, I was asked by counsel for

the defense if I had an opinion as to whether the State's DNA analyst had testified in a manner which was consistent with the forensic biology DNA data. Also, in recognition of the fact that no DNA expert testified for the defense, I was asked whether or not additional facts could have been presented, for clarifying the position of the defense. My assessments are summarized below.

II. Essential scientific components facilitating the conviction of Officer Holtzclaw

5. The scientific results promoting the conviction of the defendant, Officer Daniel Holtzclaw, are composed of data that have been reported from four evidence items. **Item 17Q1, Item 17Q2, Item 17Q3, and Item 17Q4**, were all swabs collected from the inner and outer surfaces of the fly located on the dark blue uniform pants collected from Officer Holtzclaw. A complaining witness, Ms. Adaira Gardner, made a statement to investigators, alleging that she had been digitally and vaginally assaulted by the defendant—at about 9:00 p.m., on June 17, 2014. The alleged vaginal assault last for approximately 10 minutes. The presence of DNA from Ms. Gardner within the results from the above-listed evidence swabs is not in dispute. Beyond the presence of her DNA, a multitude of perplexing observations were also made. Meanwhile, the scientific inaccuracy of the courtroom representations of those results was even more troubling.

III. Flaws in the scientific information presented during the trial of Officer Holtzclaw

6. **Potential for DNA Transfer:** The OCPD Crime Lab analyst, Ms. Elaine Taylor, was questioned about the potential for biological material transfer to the fly on the uniform pants. During cross examination, Ms. Taylor was specifically asked about incidental, non-sexual DNA transfer events. She responded as follows (at pg. 4078, lns. 4-9): **"...anything is possible and that what I found was biological material on Mr. Holtzclaw's pants that was consistent with Ms. Gardner. And how it was put there or how it got there. I wasn't there. I didn't see what happened, so I can't really tell you exactly what happened."** Further into her testimony, counsel for the defense—again— was very specific in asking (at pg. 4082, ln. 25 and pg. 4083, ln. 1): **"But certainly you agree with me that it could have been a secondary transfer."** Ms. Taylor responded by stating (at pg. 4083, ln. 6): **"I can't disagree with that."** Beyond this brief exchange, defense counsel representing Officer Holtzclaw made little effort to emphasize the pivotal reality of DNA transfer events. Instead, Ms. Taylor was allowed—without objections—to elaborate on a multitude of flawed, illogical commentaries. These commentaries contradicted the findings from a multitude of peer-reviewed, published research efforts—centering on secondary and tertiary DNA transfer events. Selected review articles and other specific publications are cited in this affidavit (**See Section 18**). During Officer Holtzclaw's trial, Ms. Taylor's testimony also repeatedly misrepresented the scientific evidence and distorted the scope of the actual results. These issues are summarized below.

7. **Inaccurate Testimony, Suggesting the Absence of Male DNA:** The OCPD analyst was allowed—without challenges from the defense—to testify that male DNA was absent from Item 17Q3 and Item 17Q4. The trial transcript shows (at pg. 4072, lns. 19-25) that Ms. Taylor was asked by the prosecution: “Did you find evidence of male DNA at either one of those locations...?” Ms. Taylor: “There’s no Y so the answer is no.” The prosecution: “There’s none there. So even though Officer Holtzclaw was wearing these pants, his DNA is not inside them; correct?” Ms. Taylor: “That is correct.” This testimony was inaccurate and prejudicial. First, refer to the data sheet entitled: “qPCR Report For SD14-273”. This document reveals the fact that 0.0102 nanograms/microliter male DNA was recovered from Item 17Q3. The data sheet also reveals that 0.0117 nanograms/microliter male DNA was recovered from Item 17Q4. Thus, Ms. Taylor’s testimony to the jury, suggesting the presence of only female DNA, was entirely inaccurate.
8. **Inaccurate Testimony, Excluding Officer Holtzclaw, and Misrepresented Claims of Vaginal Secretions:** In addition to the incorrect statements regarding the female/male DNA ratios on Item 17Q3 and Item 17Q4, Ms. Taylor was allowed—without challenges—to testify that Officer Holtzclaw was excluded as a possible contributor to all four evidence swabs—Items 17Q1, 17Q2, 17Q3, and 17Q4. Refer to the trial transcript—direct examination testimony from Ms. Taylor (Beginning on Pg. 4058, Ln. 10, through the end of Pg. 4073). Referring specifically to Page 4073 Lines 5-24—the transcript reads: Prosecutor: “Does that surprise you as a DNA forensic analyst, that the person actually wearing the clothes, their own DNA is not on them?” Ms. Taylor: “It does, but contact DNA is very tricky sometimes. And sometimes the individual that is the wearer of the item of clothing, they give it to someone else to wear. And either one of those people could potentially be the major person in that profile.” Prosecutor: “And to be clear, you don’t have any evidence that Officer Hol—somebody else was wearing Officer Holtzclaw’s pants?” Ms. Taylor: “I do not.” Prosecutor: “All we know is he was wearing these pants and his DNA is not on his pants?” Ms. Taylor: “Yes, which is very difficult to try and explain.” Prosecutor: “Does the fact and this evidence also contribute to your opinion about when discussing contact DNA, it is much more likely for it to be transferred if the epithelial cells are contained in a liquid such as vaginal fluid?” Ms. Taylor: “That’s a very good possibility.” These assessments of the scientific results were enormously inaccurate and prejudicial. For starters, this testimony contradicts the Forensic Examination Report, prepared and released by Ms. Taylor on November 12, 2014. Refer to the section entitled “Results of Analysis”, Page 7 of 15. The 8th paragraph begins as follows: “The DNA profile obtained from Item #17Q2A (pants, right fly swab) is a mixture.” Further into the 8th paragraph Ms. Taylor reveals that: “The minor component is not suitable for comparison purposes due to insufficient data.” When comparing DNA from a known person to a DNA mixture profile, four possible outcomes can be reported: 1) A DNA match. 2) The known person cannot be excluded. 3) The known person is excluded. 4) The DNA results

are insufficient. Thus, the comparison is inconclusive. Although Ms. Taylor's inconclusive—assessment for Item 17Q2A, was documented in her report, she testified to the jury with a different assessment—excluding Officer Holtzclaw. In order to assure clarity, a match confirms the presence of DNA originated from a known source. Clearly, Officer Holtzclaw's DNA does not qualify as a match to the DNA from any of the above-listed swab from the pants. Similarly, it would have been inappropriate to report the 2nd possible outcome—that that the accused cannot be excluded as a contributor to any of the DNA mixtures. Through sworn testimony—documented on Page 4073 of the trial transcript, Ms. Taylor stated—unconditionally—that Officer Holtzclaw was excluded as a possible contributor to all four evidence swabs—Items 17Q1, 17Q2, 17Q3, and 17Q4. This testimony solidified her opinion that none of the genetic material within any of the observed DNA mixtures could have come from the accused man. In doing so, Ms. Taylor contradicted her correct assessment of an inconclusive DNA comparison—which was documented in her November 12, 2014 report. Any statement that a DNA comparison is inconclusive merely acknowledges that genetic information is present—but the specific comparison does not yield a scientifically reliable conclusion. Perhaps more alarming than Ms. Taylor's contradictory reversal, during testimony, was her added claim of: "...a very good possibility" regarding "...transfer of epithelial cells contained in a liquid, such as vaginal fluid..." (refer to the end of Page 4073). Such statements exemplify the interpretive by-product of junk science (For clarification, refer to the observed allele descriptions in Sections 10-13 of this affidavit).

9. **No Vaginal Secretions on the Key Evidence Items:** In forensic biology/DNA testing facilities across the U.S., there is only one routinely employed, presumptive approach toward assessing the potential presence of vaginal secretions: Crime lab analysts can assess the surfaces of various evidence items, using multiple-wavelength light sources. Alternate Light Source (ALS) instruments are routinely used to provide clues (visible fluorescence), signaling the presence of stains that might be seminal material, saliva, vaginal secretions, other body fluids, or other substances. During the investigation of Officer Holtzclaw's uniform pants, the OCPD analyst closely inspected the fly area of those pants, utilizing nothing more than an ambient light source. It is important to note that the jury was repeatedly presented with speculation that vaginal secretions existed in this precise location of interest. In front of the jury, Ms. Taylor testified as follows (at Pg. 4066, lns 18-19): "A young woman of her age would be very likely to have quite a bit of lubrication", and "...that lubrication could transfer cells" during a rape. Within the trial transcript, it was astounding to see Officer Holtzclaw's defense counsel offer no objection to this ill-conceived testimony. Furthermore, defense counsel made no tangible effort to emphasize the glaring lack of resources utilized by the analyst to detect remnants of vaginal fluids. Most important, defense counsel chose not to question Ms. Taylor's failure to identify the vaguest hint of any staining at or near the fly/crotch area of Officer Holtzclaw's uniform pants—using the lab's ambient light source. Note that Ms. Taylor did not utilize any reliable method for

identifying bodily fluids on Officer Holtzclaw's uniform pants. Consequently, when the OCPD analyst stated that the source of DNA was probably vaginal fluids, this was speculation well beyond the capabilities of the available scientific tools. Due to the fact that these enormous misrepresentations of the science were not challenged by contrary testimony from a defense expert, the prosecution was able to capitalize on these misrepresentations. During closing arguments (at page 4037, lns.10-13), the prosecutor brazenly speculated that biological material from Ms. Gardner: "...from the walls of her vagina was transferred in vaginal fluids onto the outside and inside—not of his pockets, not of his cuff, not where he sits, but of the exact location she says his penis came in contact." Again, this commentary was presented in the absence of any scientific support. Furthermore, such unsupported claims would not have been exposed to the jury—had the defense countered the prosecution's misstatements with accurate rebuttal testimony.

10. **Alleles Observed Within the Item 17Q1 DNA Mixture:** The DNA mixture profiles from each evidence item were worthy of scrutiny—but were never adequately clarified for the jury. **Item 17Q1** was comprised of 65 genetic markers (alleles). Interestingly, only five of Officer Holtzclaw's 30 alleles had dropped out, to a level below the limits of detection. In the event that we assume the presence of DNA from both Adaira Gardner and Daniel Holtzclaw on this swab, 23 unaccounted for alleles were observed—alleles that could not have originated from either Gardner or Holtzclaw. This observation begs the question: From whom did these stray alleles originate? A logical answer to this question could have been Officer Holtzclaw's confirmed female companion—Ms. Kerri Hunt. Alternatively, note that the dark blue uniform pants were collected at 6:00 p.m. on June 18, 2014. This was after Officer Holtzclaw had allegedly assaulted Adaira Gardner the previous night, raped and orally sodomized a 2nd female victim, and then orally sodomized yet another female victim. Note that all of this activity reportedly occurred across the surface of the unzipped fly, on a pair of pants. It is beyond comprehension that the 23 unaccounted for alleles observed on **Item 17Q1** exclude the girlfriend—Kerri Hunt. They also exclude the alleged 2nd victim. Similarly, this collection of stray alleles excludes the alleged 3rd victim of the day. Despite the allegations that this abundance of criminal activity occurred over the course of just five hours, defense counsel for Officer Holtzclaw did little to emphasize the gravity of these improbable events to the jury. Furthermore, little effort was made to demand reasonable scientific explanations from the OCPD analyst. In addition to the fact that the presence of male DNA contradicted Ms. Taylor's sworn testimony, the opportunity was lost to ask: "From whom did these stray alleles originate?" Indeed, at least one entirely unknown contributor was present on **Item 17Q1**. The circumstances described above created an enormous counter-argument to the prosecution's misguided assessments that secondary DNA transfer events were unlikely—coupled with the misguided conclusion that Ms. Gardner's contribution to the DNA mixture ***must*** have originated from vaginal secretions. Mr. Holtzclaw's jury would have benefitted from hearing these issues addressed by a credible DNA expert, or at least through vigorous cross examination of Ms. Taylor.

11. **Alleles Observed Within the Item 17Q2 DNA Mixture:** In the event that we assume the presence of both Adaira Gardner and Daniel Holtzclaw on **Item 17Q2**, **14** unaccounted for alleles were present—alleles that could not have originated from either Gardner or Holtzclaw. Again, emphasis on this fact would have encouraged the jury to inquire: “**Who contributed these unaccounted for alleles?**” They were not from Kerri Hunt. Nor were they from either the 2nd or 3rd alleged victims. The question was never addressed.
12. **Alleles Observed Within the Item 17Q3 DNA Mixture:** In contradiction to Ms. Taylor’s testimony, the genetic material from **Item 17Q3** included male DNA. In addition to the presence of a small quantity of DNA from Ms. Gardner, seven alleles could not have originated from her. All but one of these allelic signals was classified by the OCPD analyst as ‘**below threshold**’, indicating very weak allelic signals. Interestingly, all but one of these weak signals were consistent with the DNA profile from Officer Holtzclaw. This fact—again—exposes the disingenuous testimony that the results qualify as an outright exclusion, rather than inconclusive data.
13. **Alleles Observed Within the Item 17Q4 DNA Mixture:** The DNA mixture observed on this item also included a male contribution. In addition to the presence of a small quantity of DNA from Ms. Gardner, ten alleles could not have originated from her. Interestingly, all but one of these allelic signals were consistent with the DNA profile from Officer Holtzclaw. This fact—again—exposes the disingenuous suggestion that the results qualify as an outright exclusion of the defendant.
14. **Quantifying the Recovery of DNA From the Evidence:** Although no preliminary test results support the presence of vaginal secretions, perhaps a substantial yield of female DNA could justify speculation that vaginal secretions might be genuinely present. However, only modest quantities of DNA from Ms. Gardner were observed on the fly swabs. Although it is true that relatively low volumes of vaginal secretions can indeed provide an abundance of cells—and high-yields of DNA—no such DNA yield results were reported from **Item 17Q1**, **Item 17Q2**, **Item 17Q3**, or **Item 17Q4**. During the investigation targeting Officer Holtzclaw, **Item 6A**, a swab from a car door handle, provided a DNA yield that was relatively equal to that observed for **Item 17Q1**. Meanwhile, the **Item 6A** DNA yield was actually 4 to 4.5 times greater than the DNA recovered from the other three fly swabs. Logic clearly dictates that the DNA yield from **Item 6A** originated from handling/contact activity that is typical of door handles on vehicles. My experience from the examination of over 800 DNA cases supports that fact. Again, without the benefit of expert forensic biology/DNA testimony on behalf of the defendant, the State’s lab analyst was never compelled to report to the jury the DNA yield results from the various items tested throughout the course of the Holtzclaw investigation. Furthermore, the jury never heard any references to DNA yield issues at all—relevant to the prosecution’s misguided arguments that vaginal secretions may have been present near the crotch/fly area of the uniform pants.

15. **Mishandling of the Uniform Pants:** At the June 18, 2014, interrogation of Officer Holtzclaw, investigators secured the uniform pants at about 6:00 p.m. At the beginning of this process, video footage showed Detective Gregory placing his bare hand into the evidence bag. The detective proceeded to push on the bottom of the bag—in order to fully open it. Officer Holtzclaw could then be seen handling his utility belt, his cell phone, his pockets, his wallet, and his keys—*all prior* to unclasping his belt, unzipping his fly, and removing his pants. In addition to the obvious DNA transfer issues associated with this order of events, both the belt and the pants collected from Officer Holtzclaw were placed in *one bag*. Consequently, these items were stored together, transported together, and remained together, until the moment that the lab analyst accessed the contents of the evidence bag. When Ms. Taylor removed the items for testing, she failed to collect any ‘substrate control’ samples from either the uniform pants or the belt. Substrate controls involve analysis of surfaces where—based upon the allegations that have been described—there are no expectations of incriminating biological materials, and no expectations of incriminating DNA. Referring only to the pants as an example, one substrate control sample could have been collected from the waistband—where the wearer might grasp them to pull them off. A second and a third substrate control could have been collected from each of the two front pockets. It is certainly troubling to find DNA—even such a small quantity of DNA—from an alleged victim, on the fly area of pants collected from a suspect. However, if remnants of her DNA are also found in relatively incidental areas, such as the waistband and pockets, this supports the probability of inadvertent transfer events.

IV. Scientific Support That Went Unutilized, During the Defense of Officer Holtzclaw

16. **Principles of DNA Transfer:** Trace DNA, or low copy number (LCN) DNA—is found everywhere. Today’s remarkably sensitive technology can detect trace quantities of DNA on a multitude of surfaces found within any crime scene. The same holds true, regarding surfaces within any residence, or workplace—where no crime has occurred. Over a century ago, Professor Edmond Locard established the world’s first forensic science lab for the Lyons Police Department. Dr. Locard postulated the importance of transfer events, in the context of criminal case investigations. Dr. Locard’s ideas evolved into the **Locard Exchange Principal**—stating that “**Every contact leaves a trace.**” Locard’s time-tested Principal became universally accepted forty years before James Watson and Francis Crick first described the accurate structure of DNA. Locard’s Principal applies more appropriately to modern DNA analysis than its application toward the detection of any other form of trace evidence. Consider the quantities of recovered DNA. Today’s state-of-the-art DNA detection technology can produce a full DNA profile from less than ½ of one billionth of a gram of DNA. In order to recover this much DNA, a crime lab analyst needs fewer than 100 cells. A single drop of human blood contains approximately 400,000 DNA-containing cells. A single drop of saliva contains approximately 500,000 salivary epithelial cells. A single drop of semen

contains approximately 3 million spermatozoa. Most applicable to the investigation into allegations targeting Officer Holtzclaw, the average human being, head-to-toe, sheds approximately 36,000 skin cells, during the course of a single minute.

17. **The Remarkable Sensitivity of DNA Testing:** A jury of non-scientists might inquire: Exactly how much is 1 ng (nanogram)? Visualize the amount of material in a small packet of artificial sweetener. This is one gram of material. Imagine setting aside $1/1000^{\text{th}}$ of this material and disposing of the remainder. The tiny pile of material set aside would weigh one milligram. Now imagine setting aside $1/1000^{\text{th}}$ of this milligram and discarding the remainder. You now have one microgram of material, which is 1 million times less than the contents of the original sweetener packet. This amount of material cannot be seen without the use of a microscope. By some means, you must now set aside $1/1000^{\text{th}}$ of your microgram of artificial sweetener, and discard the remainder. This results in one nanogram of material, or one billion times less than the packet. It is important to keep in mind that the astonishing sensitivity of this technology does not diminish the fact that we are indeed working with a remarkably tiny mass of DNA. Such small quantities of DNA can be inadvertently transferred through a multitude of casual, incidental, every-day events.

18. **Scientific Literature Supporting the Reality of DNA Transfer Events:** It is important to recognize that DNA typing, by itself, can never tell us how the DNA arrived where it was detected. In a 2009 article, "Transfer Theory in Forensic DNA Analysis" published in *Law Officer* (a journal for individuals dedicated to law enforcement) forensic biologist Suzanna Ryan instructed as follows: "Obviously, the inadvertent transfer of DNA is an area that should be further studied. Since so many of the available journal articles present conflicting information, more work is needed to see how likely it is to both transfer and detect DNA in a secondary or even a tertiary fashion, especially considering the sensitivity of modern forensic DNA analysis." In December 2010, world renowned authorities on forensic trace DNA—van Oorschot, Ballantyne, and Mitchell—published a review in the journal, *Investigative Genetics*. In the section on "Transfer Issues" they argued: "Greater effort needs to be made by police/crime investigators to investigate how a DNA sample arrived at the location where it was found, as well as by scientists to better understand the impact of activities on the relative amounts of DNA from particular sources at a crime scene. In some instances, it is possible to derive the chain of events that led to a trace DNA sample being present at a crime scene - for example, prior visits to the scene or the known use of an item. Awareness of these variables, and their impact on transfer events, will assist in weighting the likelihood of proposed alternative scenarios." Also in 2010, Allan Jamieson and Georgina Meakin of The Forensic Institute in Glasgow, UK, published an article in *The Barrister Magazine* entitled "Experience is the Name That Everyone Gives to Their Mistakes" in which they cautioned us as follows: "The examination of

evidence for handler DNA can reveal DNA of people who have, or have not, handled the item; the stronger profile may, or may not, be the person who last handled the item; an inference of direct contact between an individual and the item may or may not be supportable, depending on the circumstances of the case. In other words, we did not know enough to make any sensible scientific judgments as to how DNA came to be on an item." Later, in their article, Jamieson and Meakin pointed out the following: "Frequently, the underlying hypothesis is that touching, or direct contact, is a more likely scientific explanation for the finding of a DNA profile on an item than indirect contact. This is to the extent that it may be described as providing 'extremely strong' support for direct versus indirect transfer. In our view, such an opinion on DNA transfer is not supportable based on case experience or on the available scientific research." In July 2013, Jamieson and Meakin published a more recent review on this vital area of forensic biology/DNA. In *Forensic Science International: Genetics*, the article was entitled: "DNA transfer: review and implications for casework". In their article's abstract they write: "DNA-bearing cellular material can come to be on a surface by either direct or indirect transfer. Direct transfer includes contact, but also includes activities within the vicinity of an item that may result in the transfer of DNA directly from an individual without any contact, such as speaking, coughing, and sneezing. Indirect transfer of DNA is when DNA from an individual comes to be on an item via an intermediary surface. It is important to consider indirect transfer in the evaluation of trace DNA in casework." In the article section entitled Introduction to 'trace DNA, Jamieson and Meakin continue: "Several different terms have been coined to describe such DNA. For example, the term 'touch DNA' has been used, but this can be misleading in two ways: Firstly, such a term infers that the DNA recovered from a surface got there via that surface being touched, but this is usually not known, and secondly, there is a misconception that 'touch DNA' can only be detected by LT-DNA (low-template-DNA) techniques."


19. **In Summary:** During the trial of Officer Daniel Holtzclaw, defense counsel did not question the fact that the sworn testimony from Ms. Taylor contradicted her own case records. The OCPD analyst testified that no male DNA was found on either **Item 17Q3** or **Item 17Q4**. Her records revealed otherwise. The OCPD analyst testified that Officer Holtzclaw was excluded, and could not have contributed DNA to any of the surfaces on the fly of his own uniform pants. This contradicted her inconclusive assessment—regarding **Item 17Q2**—documented in her November 12, 2014 report. These vital contradictions served as a precursor for an illogical and disingenuous assessment of the DNA mixture results—during the prosecution's closing arguments. The argument emphasized doubts that Officer Holtzclaw could have inadvertently facilitated any secondary transfer of Ms. Gardner's DNA onto the fly of his uniform pants. The rationale for these doubts was the imaginary absence of male DNA on the fly surfaces, in addition to the reversal from inconclusive to the inaccurate assertion that Officer Holtzclaw should be excluded.

The OCPD analyst and the prosecution collaborated in emphasizing that the source of Ms. Gardner's DNA was most likely from the transfer of vaginal secretions during an alleged penile/vaginal sexual assault. These summarized instances of speculation not only contradicted the scientific results, they defied the logic that wearers typically leave DNA on their frequently used garments. Defense counsel did not question Ms. Taylor—regarding the remarkably modest quantities of DNA recovered from **Items 17Q1, 17Q2, 17Q3, and 17Q4**. This was despite the fact that the analyst testified to the jury, as follows: **"I quantitate it after it's extracted so I don't overload our system. And I can tell you a quantity."** In the event that a forensic DNA expert had been consulted to assist with the scientific defense of Officer Holtzclaw, the jury would have experienced a balance of viewpoints. For example, the jury would have understood that—based upon the scientific literature—the quantities of DNA observed within the samples from the fly of the pants were quite consistent with the expected transfer of epithelial cells during incidental handling events. It is profoundly irresponsible for any scientist to testify that the transfer of vaginal secretions from an alleged victim, to the fly on a pair of pants, is somehow more probable than other mechanisms of DNA transfer. This is especially true when that same scientist offers this speculation—without the benefit of any scientific hint that such secretions might actually be present, and no DNA quantitative data are available to support such questionable forms of speculation.


 MICHAEL J. SPENCE, Ph.D

STATE OF NEW MEXICO)
) ss.
 COUNTY OF DONA ANA)

SUBSCRIBED AND SWORN TO before me by Michael J. Spence, Ph.D., on this 30th day of January, 2017.

 **OFFICIAL SEAL**
 Irma Blanco
 NOTARY PUBLIC State of New Mexico
 My Commission Expires 1/7/2019


 NOTARY PUBLIC

My Commission Expires: Jan. 7, 2019

Curriculum Vitae

Michael J. Spence, Ph.D.

Forensic DNA Consultant-Spence Forensic Resources
2455 E. Missouri Ave. Suite A, Las Cruces, NM 88001
Cell: 575-640-2360, Website: spenceforensics.com
E-mail: mike@spenceforensics.com

Educational Background:

<u>Institute and location</u>	<u>Degree</u>	<u>Conferred</u>	<u>Field of Study</u>
New Mexico State University Las Cruces, New Mexico	Ph.D.	Dec., 1990	Molecular Biology
University of Texas El Paso El Paso, Texas	M. S.	Dec., 1985	Applied Microbiology
University of Texas El Paso El Paso, Texas	B. S.	Aug., 1983	Applied Microbiology

Professional Experience in Forensic Biology:

2/08-Present: Forensic DNA Consultant, Spence Forensic Resources, Las Cruces, NM

6/07-2/08: Technical Manager, Forensic Testing Laboratories, Las Cruces, NM

5/03-5/07: Forensic Biologist, Indiana State Police, Evansville Regional Laboratory

Summary of Forensic Training:

- **Spence Forensic Resources (SFR)**: Founded forensic biology/DNA consulting company. SFR provides a range of services—available to both the prosecution and the defense—including examination of case reports and supporting documentation, consulting and expert witness testimony at criminal case hearings, depositions, and trials. These services have necessitated the review of the Quality Assurance Systems, Standard Operating Procedures (SOPs) and DNA Technical Manuals originating from over 60 forensic DNA crime laboratories and private DNA testing facilities spanning across the United States.
- **Forensic Testing Laboratories**: Development of a Quality Assurance Policy in preparation for a pending accreditation process with FQS-I assessors. Design and validation of Standard Operating Procedures and worksheets for documentation of Chain of Custody, Evidence Screening, body fluid testing, DNA extraction/purification, real-time PCR quantification, STR-based DNA typing, statistical data interpretation, case report writing, and case review. Preparation of Forensic Biologist training manuals, including a strategy for competency and proficiency testing. Interviewing prospective new employees. Work with local law enforcement investigators on preliminary, non-probative cases.

- Applied Biosystems, Inc. (ABI) Instrument Training-3130 Capillary Electrophoresis, 7500 Real-Time PCR, and Quantifiler Duo DNA Quantification System, January 28-29, 2008.
- Promega Corporation demonstration and training on the use of Plexor H/Y Real-Time PCR Quantification System, February 1-2, 2008.
- **Indiana State Police Laboratory:** Evidence Screening/DNA Proficiency Training Program. Training included the following: chain of custody, evidence handling and screening for biological material, presumptive and confirmatory testing for blood, semen, saliva, human origin testing, comparative hair analysis, DNA extraction and purification, slot blot-based and real-time PCR-based DNA quantification systems, Promega PowerPlex16-based typing of DNA, statistical assessment of single-source and mixture DNA profiles. Training and mock cases were used to emphasize preparation for courtroom testimony. Case report writing and technical review of reports prepared by associated forensic biologists.
- IN St. Police proficiency training-ABI Real-Time PCR, completed Dec., 2006
- Training on the use of a new Lab Information Management System (LIMS), Sept. 2006
- FBI DNA Auditing Training Workshop and Certification, Fredericksburg, VA, July 2006
- Bode Technology Workshop: Advances in Human Identification, San Diego, April 2006
- SPEX Forensics Alternate Light Source Crime Scope Training, November 2005
- ABI Training for Capillary Electrophoresis and Real-Time PCR Processes, August 2005
- Statistics-Forensic Biology Applications Training, November 2004
- Statistics Workshop presented by Charles Brenner, Ph.D., March 2004
- **Auditor-National Forensic Science Technology Center (NFSTC):** June 2008-May 2009. Assessments of DNA labs at the following locations: Texas DPS Crime Lab-Austin; TX, Fort Worth PD Crime Lab; Univ. of N. TX-Center for Human Identification; Tarrant Co. Medical Examiner; Balt. City PD. Crime Lab; K.C. PD Crime Lab; FL Dept. of Law Enforcement Labs Tampa/Orl., FL; Lab Corp Burlington, NC; NC Dept. of Public Safety, Raleigh, NC. Dr. Spence is no longer active as an NFSTC auditor.

Crime Laboratory Examinations: Evidence Screening and DNA Case Analysis:

Cases completed: 101 case examinations. Dr. Spence is no longer a bench Forensic Biologist.

Provided Continuing Legal Education (CLE): PowerPoint presentation entitled:
How Forensic DNA Analysis is Prone to Misinterpretation

December 7, 2012: **New Mexico Criminal Defense Lawyers Assoc. (Albuquerque, NM);**
 March 28, 2013: **Maricopa County Office of the Public Defender (Phoenix, AZ);**
 March 29, 2013: **Pima County Office of the Public Defender (Tucson, AZ);**
 September 19, 2014: **Texas Criminal Defense Lawyers Association (El Paso, TX);**

Provided Continuing Legal Education (CLE): PowerPoint presentation entitled:
Hey DNA! You Can Drop-in Anytime.

December 4, 2015: **New Mexico Criminal Defense Lawyers Assoc. (Albuquerque, NM);**
 February 18, 2016: **Group of Case Investigators invited by the NM Public Defender's Office. (Albuquerque, NM);**

DNA Expert Guest Appearances on *News New Mexico*-Statewide radio broadcasts:
2011-2013: Eight appearances.

Technical Review of Forensic Biology/DNA Cases:

Estimated total number of case reviews for either the prosecution or the defense: 800+

Expert Witness Experience: Testimony in a total of 83 criminal proceedings.

Testimony: 16 trials—all for the prosecution: All occurring in the state of Indiana.

Testimony: 67 additional proceedings—all for the defense: 36 New Mexico hearings & trials: (10/28/08, 04/08/09, 04/09/09, 05/08/09, 07/17/09, 08/05/09, 05/11/10, 05/27/10, 06/18/10, 07/28/10, 08/06/10, 01/13/11, 01/20/11, 04/20/11, 08/10/11, 11/16/11, 05/08/12, 05/25/12, 07/13/12, 08/02/12, 09/10/12, 10/25/13, 02/28/14, 05/07/14, 08/07/14, 02/11/15, 03/27/15, 11/02/15, 04/11/16, 04/15/16, 05/23/16, 06/02/16, 06/08/16, 08/30/16, 09/22/16, & 10/13/16); One hearing, eleven trials—Texas: (10/06/08, 03/03/10, 08/04/11, 10/10/13, 01/15/14, 01/30/14, 08/01/14, 01/30/15, 04/10/15, 04/13/15, 11/01/16, & 12/06/16); Two hearings, eight trials—Arizona: (07/12/11, 03/28/12, 9/26/12, 12/13/12, 01/02/13, 06/09/15, 02/25/16, 07/18/16, 10/24/16, & 11/21/16). Two trials, one hearing—Michigan: (10/07/15, 12/21/16, & 01/11/17). Two Colorado trials: (09/22/14 & 05/21/15). Two Maryland trials: (03/31/09 & 10/07/11). One South Carolina trial: (06/19/15). One Florida trial: (03/09/16).

Publications in Forensic Biology

(Not listed—are fourteen additional, previous research publications in biological sciences)

Christina T. Kline, Demosthenes Lorandos, Michael J. Spence. **If DNA, then guilty: Strategies for overcoming juror assumptions about DNA evidence in criminal trials.** January/February 2015 issue of *The Champion*: Pages 22-28.

Post-doctoral Research Experience:

1/91-11/94: Post-doctoral Research Assistant, University of Vermont Department of Molecular Genetics, Burlington, VT. Research Summary: Molecular genetics of protein processing.

12/94-4/03: Assistant Scientist, V.A. Medical Center, Boise, ID. Research Summary: Secured funding for an independent research project on anticancer properties of the cytokine—oncostatin M.

2/08-Present: Forensic DNA Consultant, Spence Forensic Resources, Las Cruces, NM. Research Summary: Literature review of forensic biology/DNA, including the following: Proper crime lab procedures in forensic biology, DNA evidence handling and proper reporting of data, DNA contamination errors—during crime lab processing of evidence, failure of crime labs to properly document corrective action issues, DNA transfer theory, DNA mixture interpretation, low copy number (LCN) DNA typing, interpretation of RFU limits and reporting thresholds.

Teaching Experience in Molecular Biology and Forensic Biology:

December 2006: Visiting Presentation: Southern Indiana Technology Career Training Center. Provided forensic biology presentations to two classes composed of approximately sixty junior/senior level high school students.

February 2006: Visiting Presentation: Riley Children's Hospital of Indianapolis. Provided a training presentation to twenty-five sexual assault nurse examiners. Discussion focused on optimal collection and preservation of evidence associated with sexual assault kits. The presentation also summarized the state of advancing technologies in evidence screening and DNA typing.

Fall 2002 Semester: Adjunct Faculty Instructor: Boise State University. Worked on a team-taught course organized by Dr. Cheryl Jorcyk, Department of Biology, Boise State University. This course was entitled: Introduction to Bioinformatics. Presented a section entitled: "Data Mining: DNA Microarrays & Cluster Analysis".

Spring 1993 Semester: Postdoctoral Teaching Assistant, Univ. of Vermont Dept. of Molecular Genetics. Participated in teaching a graduate course in Mammalian Cell Molecular Genetics.

8/88-5/90: Doctoral Teaching Assistant, Department of Biology, New Mexico St. University. Two semesters teaching Cell Physiology Lab, one semester General Biology Lab.

8/83-12/85: Master's Teaching Assistant, Department of Biology, Univ. of Texas at El Paso. Five semesters teaching General Biology Labs.

REFERENCES

A list of qualified references can be provided—upon request.

