
The “officially released” date that appears near the beginning of each opinion is the date the opinion will be published in the Connecticut Law Journal or the date it was released as a slip opinion. The operative date for the beginning of all time periods for filing postopinion motions and petitions for certification is the “officially released” date appearing in the opinion. In no event will any such motions be accepted before the “officially released” date.

All opinions are subject to modification and technical correction prior to official publication in the Connecticut Reports and Connecticut Appellate Reports. In the event of discrepancies between the electronic version of an opinion and the print version appearing in the Connecticut Law Journal and subsequently in the Connecticut Reports or Connecticut Appellate Reports, the latest print version is to be considered authoritative.

The syllabus and procedural history accompanying the opinion as it appears on the Commission on Official Legal Publications Electronic Bulletin Board Service and in the Connecticut Law Journal and bound volumes of official reports are copyrighted by the Secretary of the State, State of Connecticut, and may not be reproduced and distributed without the express written permission of the Commission on Official Legal Publications, Judicial Branch, State of Connecticut.

STATE OF CONNECTICUT *v.* CLIFTON FOREMAN
(SC 17697)

Rogers, C. J., and Norcott, Palmer, Vertefeuille and Schaller, Js.

Argued May 21—officially released September 16, 2008

Deborah G. Stevenson, special public defender, for
the appellant (defendant).

John A. East III, senior assistant state's attorney,
with whom, on the brief, was *Michael Dearington*,
state's attorney, for the appellee (state).

Opinion

NORCOTT, J. The defendant, Clifton Foreman, appeals¹ from the judgment of conviction, rendered after a jury trial, of four counts of sexual assault in the first degree as a principal and accessory in violation of General Statutes §§ 53a-70 (a) (1) and 53a-8 (a), and one count each of kidnapping in the first degree with a firearm as a principal or accessory in violation of General Statutes §§ 53a-92a (a) and 53a-8 (a), conspiracy to commit kidnapping in the first degree with a firearm in violation of General Statutes §§ 53a-48 (a) and 53a-92a (a), attempted assault in the first degree as a principal or accessory in violation of General Statutes §§ 53a-49 (a) (1), 53a-59 (a) (1) and 53a-8 (a), conspiracy to commit assault in the first degree in violation of General Statutes §§ 53a-48 (a) and 53a-59 (a) (1), and robbery in the first degree as a principal or accessory in violation of General Statutes §§ 53a-134 (a) (4) and 53a-8 (a). On appeal, the defendant claims that the trial court improperly: (1) denied his motion to suppress certain DNA evidence in violation of, inter alia, *Miranda v. Arizona*, 384 U.S. 436, 86 S. Ct. 1602, 16 L. Ed. 2d 694 (1966), and *State v. Stoddard*, 206 Conn. 157, 537 A.2d 446 (1988); (2) granted the state's motion to compel the defendant to provide a second DNA sample; and (3) admitted computer generated fingerprint and DNA evidence without an adequate foundation, because, inter alia, the expert witnesses did not have sufficient knowledge about the applicable software. We disagree with each claim, and, accordingly, we affirm the judgment of conviction.

The record reveals the following relevant facts, which the jury reasonably could have found, and the procedural history of this case. At approximately 12:30 a.m. on September 26, 2003, the victim² was driving home in the city of West Haven when she stopped her vehicle at a red stoplight at the intersection of First Avenue and Spring Street. The defendant, who was driving a stolen car in which Alazaron Sargeant, Nathaniel Roberts and Earl Banks were passengers, stopped alongside the victim's vehicle. The defendant and Sargeant, both of whom were wearing ski masks, exited the vehicle and ordered the victim out of her car at gunpoint. The victim complied, and then, at the direction of the defendant, climbed into the trunk of her vehicle. After closing the lid of the trunk, the defendant drove off in the victim's vehicle with Banks, while Sargeant and Roberts followed in the stolen car.

The defendant and Sargeant eventually stopped the stolen vehicles in an isolated, wooded section of Northrop Road in the town of Woodbridge. At gunpoint, the victim was then ordered to exit the trunk, walk into the woods and remove her clothing. Although the victim attempted to comply, the defendant and Sargeant ripped the remainder of her clothing off, and each then

had forced oral and vaginal sex with the victim. After the multiple sexual assaults, Sargeant tried to snap the victim's neck by violently twisting it to the left. The victim fell to the ground, and the defendant then repeatedly struck the back of her head with a sharp rock. The victim successfully feigned death, and the defendant, Sargeant, Banks and Roberts then fled the scene.

The defendant subsequently was arrested and charged with four counts of sexual assault in the first degree as a principal and accessory in violation of §§ 53a-70 (a) (1) and 53a-8 (a), and one count each of kidnapping in the first degree with a firearm as a principal or accessory in violation of §§ 53a-92a (a) and 53a-8 (a), conspiracy to commit kidnapping in the first degree with a firearm in violation of §§ 53a-48 (a) and 53a-92a (a), attempted assault in the first degree as a principal or accessory in violation of §§ 53a-49 (a) (1), 53a-59 (a) (1) and 53a-8 (a), conspiracy to commit assault in the first degree in violation of §§ 53a-48 (a) and 53a-59 (a) (1), and robbery in the first degree as a principal or accessory in violation of §§ 53a-134 (a) (4) and 53a-8 (a).

Before trial, the defendant moved to suppress the DNA evidence that the police had obtained from him during the interview at the police department on July 16, 2004. On the basis of the testimony adduced during the suppression hearing, the trial court reasonably could have found the following additional facts. On July 16, 2004, four detectives from the New Haven police department went to the defendant's home to inquire about a series of shootings that had occurred in the early summer of 2004 (shootings).³ The defendant voluntarily accompanied the detectives to the police department. At the time the defendant went to the police department, the police were not aware of his involvement in the crimes of which he was convicted in this case, and the shootings were, at that point, their sole focus of inquiry. Once at the police department, the defendant was taken to an interview room, told that he was not under arrest, and informed of his *Miranda* rights. The defendant waived his *Miranda* rights, in writing, and then proceeded to confess to his involvement in the shootings.

While the police were questioning the defendant, they were also separately questioning another suspect in the shootings. The other suspect provided information that led the police to believe that the defendant may have been involved in the crimes at issue in this case. On the basis of that information, the police sought the defendant's consent to obtain a DNA sample. The defendant provided written consent, and Detective Michael Quinn of the police department took a DNA sample from the defendant via an oral swab.

The defendant claimed at the suppression hearing that the DNA evidence should be suppressed because: (1) he was subjected to a custodial interrogation and

his three requests for counsel were denied in violation of *Miranda v. Arizona*, supra, 384 U.S. 436; and (2) the police improperly prevented an attorney from speaking with him in violation of *State v. Stoddard*, supra, 206 Conn. 157. After the six day suppression hearing, the trial court issued an oral memorandum of decision denying the motion on the basis of its conclusions that: (1) the defendant expressly understood and validly waived his right to counsel; (2) the defendant had not requested the assistance of counsel; and (3) there was no *Stoddard* violation because the attorney's efforts to contact the defendant were not diligent, timely or pertinent.

A subsequent jury trial resulted in a guilty verdict on all counts, and the trial court rendered judgment in accordance with the verdict and sentenced the defendant to a total effective sentence of eighty-five years imprisonment. This direct appeal followed. Additional facts will be set forth as necessary.

On appeal, the defendant claims that the trial court improperly: (1) denied his motion to suppress the DNA evidence in violation of, inter alia, *Miranda* and *Stoddard*; (2) granted the state's motion to compel him to provide a second DNA sample; and (3) admitted computer generated fingerprint and DNA evidence without an adequate foundation.⁴ We address each claim in turn.

I

We first address the defendant's claim that the trial court improperly denied his motion to suppress the DNA evidence. Specifically, the defendant claims, inter alia, that the trial court's denial was improper because: (1) the DNA evidence was the product of an illegal warrantless arrest that was not supported by probable cause—in violation of the fourth amendment to the United States constitution and article first, § 7, of the state constitution; (2) he failed to make a voluntary, knowing and intelligent waiver of his rights under *Miranda v. Arizona*, supra, 384 U.S. 436; and (3) the police improperly denied an attorney access to him in violation of *State v. Stoddard*, supra, 206 Conn. 157. The defendant also claims that the trial court's factual findings, which supported its conclusion to deny the motion to suppress, were clearly erroneous, and that the misconduct of the police and the improprieties of the trial court resulted in structural error. We disagree with each of the defendant's claims.

“As an initial matter, we note that [o]ur standard of review of a trial court's findings and conclusions in connection with a motion to suppress is well defined. A finding of fact will not be disturbed unless it is clearly erroneous in view of the evidence and pleadings in the whole record [When] the legal conclusions of the court are challenged, [our review is plenary, and] we

must determine whether they are legally and logically correct and whether they find support in the facts set out in the court's memorandum of decision" (Internal quotation marks omitted.) *State v. Brown*, 279 Conn. 493, 514, 903 A.2d 169 (2006). "Because a trial court's determination of the validity of a . . . search [or seizure] implicates a defendant's constitutional rights, however, we engage in a careful examination of the record to ensure that the court's decision was supported by substantial evidence. . . . However, [w]e [will] give great deference to the findings of the trial court because of its function to weigh and interpret the evidence before it and to pass upon the credibility of witnesses." (Citation omitted; internal quotation marks omitted.) *State v. Reynolds*, 264 Conn. 1, 43, 836 A.2d 224 (2003), cert. denied, 541 U.S. 908, 124 S. Ct. 1614, 158 L. Ed. 2d 254 (2004). We now examine, in turn, each of the defendant's arguments proffered in support of his overall claim—namely, that the trial court improperly denied his motion to suppress the DNA evidence.

A

The defendant first claims that the trial court's denial of his motion to suppress the DNA evidence was improper because it was tainted by an illegal warrantless arrest that was not supported by probable cause in violation of the fourth amendment to the United States constitution and article first, § 7, of the state constitution.⁵ Specifically, the defendant claims that he was arrested at his home and taken to the police station against his will, and that the police acted "on the basis of conjecture and speculation." In addition, the defendant requests, to the extent this claim is unpreserved, that we review the claim under *State v. Golding*, 213 Conn. 233, 239–40, 567 A.2d 823 (1989).⁶ In response, the state contends, inter alia, that the defendant's claim is not reviewable under the first prong of *Golding* due to an inadequate record. We agree with the state.

During the suppression hearing, the defendant did *not* argue that the DNA evidence, which was obtained from him during an interview at the police department on July 16, 2004, should be suppressed because he was subjected to a warrantless arrest without probable cause. The defendant claimed at the hearing, rather, that the DNA evidence should be suppressed because: (1) his three requests for counsel were denied in violation of *Miranda*; and (2) the police improperly prevented an attorney from speaking with him in violation of *Stoddard*. In addition, the trial court made no findings or conclusions regarding whether the defendant was subjected to an illegal warrantless arrest.

Even if we were to assume, without deciding, that the defendant was seized when the police picked him up at his home, the record is nevertheless inadequate to address his claim that the police did not have probable cause to make the arrest.⁷ "[B]ecause the defendant did

not argue at the suppression hearing that the arrest lacked probable cause, the state did not offer [specific] evidence concerning probable cause, and the trial court was not called upon to determine whether probable cause to arrest existed [T]he record of the suppression hearing [lacks adequate] evidence that would allow this court to examine whether the police had probable cause to arrest the defendant at that particular time. Accordingly, the defendant fails to satisfy the requirement of the first prong of *Golding* that the record be adequate to review the alleged claim of error. As a result, [the defendant] cannot prevail on this unreserved constitutional claim.” *State v. Canales*, 281 Conn. 572, 582, 916 A.2d 767 (2007).

B

The defendant next claims that the trial court’s denial of his motion to suppress the DNA evidence was improper because he had not made a voluntary, knowing and intelligent waiver of his rights under *Miranda v. Arizona*, supra, 384 U.S. 436. Specifically, the defendant claims that his waiver was not voluntary or intelligent because: (1) the police did not inform him of the crime they were investigating prior to his signing a waiver of his *Miranda* rights; and (2) the police failed to inform him that an attorney was present at the station and seeking to represent him. In response, the state claims, inter alia, that: (1) the defendant was not in custody, for purposes of invoking his *Miranda* rights, until after he voluntarily gave a DNA sample; and (2) even if it is assumed that the defendant was in custody, the record on the whole suggests that his *Miranda* waiver was voluntary. We agree with the state.

The record reveals the following additional relevant facts that the trial court reasonably could have found based on the testimony adduced during the suppression hearing: (1) before the defendant was asked about the shootings, Quinn read the defendant his *Miranda* rights out of an abundance of caution, even though the defendant was not in custody; (2) the defendant read and understood his *Miranda* rights, and then signed a waiver of those rights at approximately 12:44 p.m.;⁸ (3) the defendant had been read his *Miranda* rights by a police officer on a prior occasion; and (4) after the defendant had waived his *Miranda* rights, Quinn informed him that they wanted to ask him questions about the shootings, and the defendant proceeded to confess his involvement in the shootings. The record reflects that between approximately 4:37 p.m. and 5:21 p.m., the defendant also gave a tape-recorded statement detailing his earlier confession, in which he stated, inter alia, that: (1) he understood his *Miranda* rights and was voluntarily waiving those rights; (2) he could read, write and understand the English language, and that he had received a general equivalency diploma; and (3) he was not under the influence of any drugs, alcohol or

prescription medication at that time. In addition, it is undisputed that the defendant was arrested at 6:41 p.m.

The trial judge determined that the defendant had not requested the assistance of counsel while at the police station, and found that the defendant both understood and validly waived his *Miranda* rights. In other words, not only did the trial court find that the defendant had validly waived his *Miranda* rights, but it also found that the defendant did not request the assistance of counsel, and, therefore, did not rescind his waiver⁹ of the right of access to counsel.¹⁰

“Two threshold conditions must be satisfied in order to invoke the warnings constitutionally required by *Miranda*: (1) the defendant must have been in custody; and (2) the defendant must have been subjected to police interrogation.” *State v. Britton*, 283 Conn. 598, 604, 929 A.2d 312 (2007). “When the police are conducting a good faith *precustodial* investigation at police headquarters . . . [e]arly *Miranda* warnings may be constitutionally sufficient if they precede interrogation that directly produces information so immediately incriminating that the defendant’s status within a relatively brief period of time becomes that of a suspect in custody. The test is whether the warnings given are, in light of the particular facts and the totality of the circumstances, sufficiently proximate in time and place to custodial status to serve as protection from the coercive pressures that can be brought to bear upon a suspect in the context of custodial interrogation.” (Citation omitted; emphasis added; internal quotation marks omitted.) *State v. Burge*, 195 Conn. 232, 247–48, 487 A.2d 532 (1985).

“To be valid, a waiver must be voluntary, knowing and intelligent. . . . The state has the burden of proving by a preponderance of the evidence that the defendant voluntarily, knowingly and intelligently waived his *Miranda* rights. . . . Whether a purported waiver satisfies those requirements is a question of fact that depends on the circumstances of the particular case. . . .

“Whether the defendant has knowingly and intelligently waived his rights under *Miranda* depends in part on the competency of the defendant, or, in other words, on his ability to understand and act upon his constitutional rights. . . . Factors which may be considered by the trial court in determining whether an individual had the capacity to understand the warnings include the defendant’s experience with the police and familiarity with the warnings . . . his level of intelligence, including his IQ . . . his age . . . his level of education . . . his vocabulary and ability to read and write in the language in which the warnings were given . . . intoxication . . . his emotional state . . . and the existence of any mental disease, disorder or retardation. . . . Although the issue [of whether there has been a

knowing and voluntary waiver] is . . . ultimately factual, our usual deference to fact-finding by the trial court is qualified, on questions of this nature, by the necessity for a scrupulous examination of the record to ascertain whether such a factual finding is supported by substantial evidence.” (Citations omitted; internal quotation marks omitted.) *State v. Reynolds*, supra, 264 Conn. 50–51.

Having scrupulously examined the record, we first conclude that the *Miranda* warnings given to the defendant “performed their constitutionally mandated function even though they were issued prior to the time the defendant was in custody” *State v. Burge*, supra, 195 Conn. 249; see also *id.* (precustodial *Miranda* warnings determined to be valid when “the defendant was continuously in the company of the police, was questioned on the same subject by the same officers throughout that time, and confessed within four hours of having been given the warnings”).

We also conclude that the trial court’s finding, namely, that the defendant validly waived his *Miranda* rights, was supported by substantial evidence. “An express written or oral waiver is strong proof of the validity of the waiver. . . . Moreover, the record established that the defendant . . . already was familiar with the nature of the rights that he is afforded under *Miranda*. . . . [In addition], the defendant . . . who is reasonably intelligent, expressed no uncertainty regarding his rights; on the contrary, it is apparent that he fully understood them. There is nothing in the record to suggest that the defendant was under the influence of alcohol or any narcotic substance when he was advised of his rights, nor does the evidence indicate that he was suffering from any mental illness or defect that could have adversely affected his ability to comprehend fully his rights. Consequently, we conclude that there was substantial evidence to support the court’s finding that the defendant knowingly, voluntarily and intelligently waived his *Miranda* rights.” (Citations omitted; internal quotation marks omitted.) *State v. Reynolds*, supra, 264 Conn. 52–53.

Regarding the defendant’s first specific claim, namely, that he had not voluntarily waived his *Miranda* rights because the police had not informed him of the crime they were investigating prior to the waiver, the defendant has failed to cite *any* authority that supports this contention. The United States Supreme Court answered this very question, however, in *Colorado v. Spring*, 479 U.S. 564, 577, 107 S. Ct. 851, 93 L. Ed. 2d 954 (1987), wherein the Supreme Court concluded that “the failure of law enforcement officials to inform [the defendant] of the subject matter of the interrogation could not affect [the defendant’s] decision to waive his [f]ifth [a]mendment privilege in a constitutionally significant manner.” The Supreme Court further con-

cluded in *Spring* that: “*Miranda* specifically required that the police inform a criminal suspect that he has the right to remain silent and that *anything* he says may be used against him. There is no qualification of this broad and explicit warning. The warning, as formulated in *Miranda*, conveys to a suspect the nature of his constitutional privilege and the consequences of abandoning it. . . . [A] suspect’s awareness of all the possible subjects of questioning in advance of interrogation is not relevant to determining whether the suspect voluntarily, knowingly, and intelligently waived his [f]ifth [a]mendment privilege.” (Emphasis in original.) *Id.* Accordingly, we conclude that the defendant’s waiver of his *Miranda* rights in the present case was *not* rendered involuntary, unknowing or unintelligent simply because the police did not inform him of the crime they were investigating prior to obtaining the waiver.

The defendant also claims that his *Miranda* waiver was not voluntary because the police had failed to inform him of the presence of a specific attorney who desired to render legal assistance to him. As we conclude in part I C of this opinion that the attorney did not arrive at the police station until *after* the defendant had already waived his *Miranda* rights and consented to a DNA sample, this claim must also fail.

Finally, we conclude that the trial court’s finding that the defendant did not request the assistance of counsel—and, therefore, did not reinvoke this right—was also supported by substantial evidence. In support of this conclusion, the trial court not only relied on the defendant’s valid written and oral waiver of his *Miranda* rights, but also credited Quinn’s testimony over the defendant’s conflicting testimony.¹¹ “In evaluating whether the state has met its burden of proving that the defendant knowingly and voluntarily waived his rights . . . we must defer to the trial court’s resolution of questions of credibility.” *State v. Whitaker*, 215 Conn. 739, 753, 578 A.2d 1031 (1990). Thus, we also conclude that the trial court’s finding that the defendant did not request the assistance of counsel was supported by substantial evidence.

C

The defendant next claims that the trial court’s denial of his motion to suppress the DNA evidence was improper because he was denied access to counsel in violation of *State v. Stoddard*, *supra*, 206 Conn. 157, and article first, § 8, of the Connecticut constitution. Specifically, the defendant claims that the police intentionally thwarted an attorney, Carolyn Stewart, from contacting him, and that the police, therefore, violated their duty promptly to inform the defendant “of timely efforts by counsel to render pertinent legal assistance.” *Id.*, 166. In response, the state claims, *inter alia*, that the trial court properly determined that Stewart’s

efforts were not diligent, timely or pertinent, and, therefore, that no *Stoddard* violation exists. We agree with the state, insofar as the trial court properly determined that Stewart's efforts were not timely.

The record reveals the following additional relevant facts, which the trial court reasonably could have found on the basis of the testimony adduced during the suppression hearing. Another suspect in the shootings, whom the police were also questioning the same day as the defendant, provided information that led the police to believe that the defendant may have been involved in the crimes of which he was ultimately convicted in this case. Within thirty minutes after finishing the defendant's tape-recorded statement, which was completed at 5:21 p.m., Quinn obtained a voluntary, written consent from the defendant permitting the police to obtain a DNA sample via an oral swab. The defendant's mother, Renee Foreman, called a family friend, Mae Ola Riddick, at approximately 4:30 p.m. on July 16, 2004, and requested Riddick's assistance in finding an attorney for the defendant. Riddick subsequently called Stewart. Stewart and Riddick left for the police station between 5 p.m. and 5:30 p.m., and it would have taken them approximately twenty minutes to arrive at 1 Union Avenue in New Haven, where both the police station and a detention center, which is separately operated by the state judicial marshals, are located.

During the suppression hearing, both parties stipulated that sunset occurred at 8:22 p.m. on July 16, 2004. The record also contains a copy of the form utilized by the detention center, on July 16, 2004, to log, inter alia, the names of inmates and the times that they were processed into the detention center that day. That form shows that the defendant was processed into the detention center at approximately 6:41 p.m.

In its oral ruling denying the defendant's motion to suppress, the trial court found that Stewart's efforts to notify the police department that she wanted to render legal assistance to the defendant were neither diligent nor pertinent. More important, however, is the trial court's finding that Stewart's efforts were also untimely. Specifically, the trial court found that the defendant signed a consent form, which gave the police permission to obtain a DNA sample from him, "between approximately 5:30 and 5:45 p.m. on July 16, 2004." The trial court also found that "the most reasonable construction of the evidence is that the defendant was in the detention center and that it was after 6:41 p.m. when . . . Stewart came there, which was after [the defendant] had signed the consent with respect to the DNA sample."¹²

In *State v. Stoddard*, supra, 206 Conn. 164, 166–67, we determined that article first, § 8, of the Connecticut constitution requires that police inform a suspect of

diligent and timely efforts by counsel to render pertinent legal assistance. “What is required of counsel is a reasonably diligent, timely and pertinent request to consult with a client. A request is diligent if all necessary steps have been taken to notify the police clearly in the ordinary course of business, timely if made prior to the giving of incriminatory statements, and pertinent if counsel clearly indicates that access to the suspect is sought for the general purpose of providing legal assistance.” *Id.*, 171. The duty imposed on the police “requires only that the[y] . . . act as a neutral conduit for the pertinent and timely requests by counsel to meet with a custodial suspect.” *Id.*, 167. “Based upon the totality of the circumstances . . . [t]he critical question is whether the information not conveyed by the police would likely have changed the defendant’s appraisal and understanding of the circumstances. . . . Of particular, but not exclusive, relevance are such facts and circumstances as the relationship of the suspect to the attorney, the nature of counsel’s request, the extent to which the police had reasonable notice of counsel’s request and the conduct of the suspect. . . . Thus . . . the state has the burden of proving by a preponderance of the evidence that the efforts of counsel, if properly communicated, would not have altered the defendant’s decision to speak with the police.” (Citation omitted; internal quotation marks omitted.) *State v. Cobb*, 251 Conn. 285, 355–56, 743 A.2d 1 (1999), cert. denied, 531 U.S. 841, 121 S. Ct. 106, 148 L. Ed. 2d 64 (2000).

“[O]ur scope of review over this issue is plenary and . . . it is our obligation to consider the totality of the circumstances as disclosed by the record as a whole, including the relevant historical facts found by the trial court, and to determine from that record the critical question, namely, whether the pertinent information not communicated to the defendant would have altered his decision to speak with the police when he did.” *Id.*, 357.

We first examine the relevant information in the record with regard to whether Stewart’s efforts were timely under the *Stoddard* test, namely, whether her efforts to notify the police occurred prior to when the defendant consented to a DNA sample. More specifically, even if we were to assume, without deciding, that Stewart’s efforts to notify the police were both diligent and pertinent, a determination that her efforts were untimely would necessarily defeat the defendant’s claim.

After reviewing the record as a whole, we agree with the trial court’s determination that Stewart’s efforts were untimely under *Stoddard*, specifically, that Stewart arrived at the detention center *after* the defendant voluntarily had given the police written consent to obtain a DNA sample. Quinn’s testimony indicates that

the defendant gave his consent to obtain a DNA sample no later than 5:51 p.m. The most revealing evidence concerning when Stewart arrived at the detention center came from the testimony of Riddick, who stated that she and Stewart left for 1 Union Avenue “roughly” between 5 p.m. and 5:30 p.m. and that it would take approximately twenty minutes to get there. That means, based on this testimony, that their arrival at the detention facility would have been, at the earliest, approximately between 5:20 p.m. and 5:50 p.m. Additional evidence in the record, however, indicates that Stewart more than likely arrived at the detention facility well after 5:50 p.m., which would have been after the defendant already had given consent for the police to obtain a DNA sample. It is undisputed that sunset on July 16, 2004, occurred at 8:22 p.m. Assuming, without deciding, that Stewart did arrive at the detention center at 5:50 p.m. and that she and Riddick waited forty-five minutes before going outside again, a reasonable person would be unlikely to describe the lighting conditions outside as “getting to be dark” or “twilight” at 6:35 p.m., which was almost two full hours prior to when the sun set that day. See, e.g., *State v. Brown*, 273 Conn. 330, 343, 869 A.2d 1224 (2005) (“[c]ommon sense does not take flight at the courthouse door” [internal quotation marks omitted]). A more reasonable construction of this evidence is that Stewart arrived at the detention center considerably later than 5:50 p.m. In fact, as articulated by the trial court, further evidence in the record suggests that Stewart arrived after the defendant had been processed at the detention center at 6:41 p.m., since the marshal at the detention center informed Stewart and Riddick that the defendant was being held there, at the detention center, when they arrived.¹³

Accordingly, the totality of the circumstances, based on the record as a whole, indicates that Stewart arrived at the detention center *after* the defendant had already consented to a DNA sample being taken by the police. Stewart could in no way have influenced the defendant’s decision about whether to give consent if she was not present to render such advice. We conclude, therefore, that Stewart’s efforts to render legal assistance to the defendant were not timely under the standard promulgated in *State v. Stoddard*, supra, 206 Conn. 157, and, therefore, Stewart was not improperly denied access to the defendant.¹⁴

D

The defendant next claims that the trial court improperly denied his motion to suppress the DNA evidence because he had not voluntarily consented to the police taking a DNA sample. Specifically, the defendant claims, *inter alia*,¹⁵ that he did not give voluntary consent because the police never informed him of why they wanted to take the DNA sample. In response, the state claims that: (1) there is no binding legal authority stating

that a defendant cannot consent to a search unless the police inform the defendant of the reason for the search; and (2) the trial court properly credited the testimony of the detectives over that of the defendant. We agree with the state.

The record reveals the following additional relevant facts and procedural history. On the basis of the testimony adduced during the suppression hearing, the trial court reasonably could have found the following facts. The defendant voluntarily agreed to sign a consent to search form (consent form), allowing Quinn to take a DNA sample from the defendant via an oral swab. Specifically, Quinn filled out the consent form while the defendant watched, gave the form to the defendant to read, and then read the entire contents of the consent form to the defendant. The defendant then signed and dated the consent form, and Quinn and Detective Peter Carusone proceeded to sign and date the consent form as witnesses. The defendant never objected to being given a swab, and he voluntarily opened his mouth for Quinn to obtain a DNA sample.

The consent form¹⁶ clearly indicates that the defendant was informed of his constitutional right to refuse being searched without a warrant. The consent form also clearly seeks consent from the defendant to allow Quinn to obtain a DNA sample. The defendant signed and dated the consent form, thereby memorializing his consent for Quinn to obtain a DNA sample. The consent form also shows dated signatures by Quinn and Carusone as witnesses.

The trial court concluded, without further articulation, that “the consent form that was *signed* by [the defendant] *permitting* the swab of his mouth does not have a time noted on it. I find that the more credible evidence indicates that that form was most likely signed between approximately 5:30 and 5:45 p.m. on July 16, 2004.” (Emphasis added.) Implicit in the trial court’s conclusion is the finding that, not only did the defendant consent to a DNA sample, but also that such consent was voluntary. See footnote 16 of this opinion.

“It is . . . well settled that one of the specifically established exceptions to the requirements of both a warrant and probable cause is a search [or seizure] that is conducted pursuant to consent. . . . Whether a defendant voluntarily has consented to a search is a question of fact to be determined by the trial court from the totality of the circumstances based on the evidence that it deems credible along with the reasonable inferences that can be drawn therefrom. . . . Whether there was valid consent to a search is a factual question that will not be lightly overturned on appeal.” (Citations omitted; internal quotation marks omitted.) *State v. Nowell*, 262 Conn. 686, 699, 817 A.2d 76 (2003).

Although the defendant admitted at the suppression

hearing that he had signed the consent form and voluntarily had allowed Quinn to take a DNA sample, he now claims that his consent was not voluntary because the detectives never informed him about why they wanted the DNA sample. The defendant cites *no* legal authority whatsoever in support of this claim, and we have been unable to find any legal authority stating that a defendant's consent to a search is rendered involuntary simply because the police did not inform the defendant about the purpose underlying the search. We *have* found authority, however, that directly contradicts the defendant's claim. See *United States v. Andrews*, 746 F.2d 247, 249 n.3 (5th Cir. 1984) ("a mere failure to state a purpose does not render the defendant's consent involuntary"), cert. denied, 471 U.S. 1021, 105 S. Ct. 2032, 85 L. Ed. 2d 314 (1985). Accordingly, we conclude that there is more than substantial evidence in the record to support the trial court's finding that the defendant voluntarily gave his consent for Quinn to obtain a DNA sample from the defendant via an oral swab.

II

The defendant next claims that the trial court abused its discretion in granting the state's motion, during the suppression hearing, to take additional nontestimonial evidence in the form of oral swabs from the defendant. Specifically, the defendant claims the trial court abused its discretion because the motion was granted without probable cause, and because it gave the state "a second bite of the apple." The defendant further claims that the trial court's granting of the motion amounted to structural error. We disagree with both claims.

The defendant admits that "[t]he state did not submit to the jury the second DNA sample taken per order of the court." Even if we were to assume, without deciding, that the trial court improperly granted the state's motion, the evidence obtained as a result of the state's motion was never presented to the jury, and, therefore, played no role in the jury's determination of whether the defendant was guilty of the charged crimes. Since the granting of the motion in no way prejudiced the defendant or affected the verdict, we can confidently say that any error made by the trial court in granting the motion, even if constitutional, was harmless beyond a reasonable doubt. See *State v. Brown*, *supra*, 279 Conn. 504 ("the United States Supreme Court has repeatedly reaffirmed the principle that an otherwise valid conviction should not be set aside if the reviewing court may confidently say, on the whole record, that the constitutional error was harmless beyond a reasonable doubt"). Accordingly, the trial court's ruling also could not be structural error. See *id.*, 505 ("[t]his court has found error to be structural only when the error renders a trial fundamentally unfair and is not susceptible to a harmless error analysis" [internal quotation marks omitted]).

III

The defendant next claims that the trial court improperly admitted computer generated fingerprint and DNA evidence because, inter alia, the state failed to provide a sufficient foundation for it, since its expert witnesses could not sufficiently articulate the methodology underlying the computer generated evidence, and, therefore, the defendant's right to confrontation under the sixth amendment to the United States constitution was violated.¹⁷ The defendant also claims that the trial court abused its discretion because it did not properly analyze whether the evidence was reliable under the factors articulated in *State v. Porter*, 241 Conn. 57, 698 A.2d 739 (1997), cert. denied, 523 U.S. 1058, 118 S. Ct. 1384, 140 L. Ed. 2d 645 (1998), and also that the admission of the fingerprint and DNA evidence amounts to structural error. We disagree.

"We begin our analysis with the following well established principles. In determining the relevancy and admissibility of evidence, trial courts have broad discretion. . . . Our standard of review of an evidentiary ruling is dependent on whether the claim is of constitutional magnitude. If the claim is of constitutional magnitude, the state has the burden of proving the constitutional error was harmless beyond a reasonable doubt. . . . Otherwise, in order to establish reversible error on an evidentiary impropriety, the defendant must prove both an abuse of discretion and a harm that resulted from such abuse. . . .

"In the present case, the defendant claims that the admission of this evidence without a proper foundation obstructed his constitutional right to confrontation. The sixth amendment to the constitution of the United States guarantees the right of an accused in a criminal prosecution to be confronted with the witnesses against him. This right is secured for defendants in state criminal proceedings. . . . [T]he primary interest secured by confrontation is the right of cross-examination." (Citations omitted; internal quotation marks omitted.) *State v. Swinton*, 268 Conn. 781, 797-98, 847 A.2d 921 (2004). Keeping these principles in mind, we now address the defendant's claims, with regard to the fingerprint and DNA evidence, in turn.

A

The defendant first claims that the state did not provide a sufficient foundation for the admission of the fingerprint evidence, and, therefore, that his sixth amendment right to confrontation was violated. Specifically, the defendant contends that the fingerprint expert did not know whether the equipment that scanned the defendant's fingerprints and then transferred those images onto fingerprint cards was reliable. More specifically, the defendant claims that a proper foundation was not provided because the expert did not know

“how the device [that] generated the [fingerprint] images [operated], how the software manipulated or converted the images, what the rate of error was in producing the images, or if there was any peer review conducted of that scientific methodology.” We disagree, and conclude that: (1) the state introduced a proper foundation for the admission of the fingerprint evidence; (2) the trial court did not abuse its discretion by admitting the fingerprint evidence at trial; and (3) the defendant’s sixth amendment right to confrontation was, therefore, not violated.

The record reveals the following additional facts and procedural history that are relevant to our resolution of this claim. The state offered fingerprint evidence through Kevin Parisi, a latent fingerprint examiner employed by the state forensic laboratory. Parisi testified that, at the time of trial, he had extensive qualifications¹⁸ and had been employed with the state laboratory for six and one-half years, and that he previously had been employed as a latent print examiner with the New Hampshire state police and the New York City police department forensic laboratories. Parisi testified, in detail, about the process and scientific methodology—called ACEV—that he utilizes to compare known and unknown fingerprints.¹⁹ Parisi further testified that every conclusion is independently verified by at least one other fingerprint examiner.

With regard to the unknown print in this case, Parisi was able to obtain a latent print from a plastic bag that was recovered from the victim’s car, and he testified that the latent print was sufficient—namely, that “[t]here was enough information present in terms of ridge and flow characteristics”—to make a comparison with a known print.

With regard to the known prints in this case, the defendant’s fingerprints were documented at the police station by means of having his fingerprints scanned by a computer (equipment)—otherwise known as a “live scan system”—with the scanned image of his fingerprints then being printed onto a card. Parisi testified that he is “not a computer expert,” and that he did not know exactly how the software in the equipment “receives electronic information and converts it into something that is visible.” Parisi also stated that he was not familiar with the error rates or any peer review of the software program utilized in the equipment. Parisi did, however, testify that he understands how the equipment fundamentally works, and he then proceeded to describe his understanding of the “live scan” process.²⁰

Parisi testified further that: (1) the fingerprint card produced by the equipment is essentially a photograph; (2) for purpose of comparisons with unknown prints, fingerprint cards produced by the equipment are treated the same as “inked” cards, that is, fingerprint cards produced by rolling fingers, wet with ink, across a blank

card; (3) there is no disadvantage to using a scanned card instead of an inked card; (4) he relies on scanned cards as often as he relies on inked cards to make comparisons; and (5) that more than sixty law enforcement agencies in Connecticut have converted to the scanned fingerprint system, and that “the entire state is transferring over to the electronic system slowly.”

The defendant argued that there was an insufficient foundation for the admission of the fingerprint evidence. Specifically, the defendant, after citing several cases,²¹ claimed that there was an improper evidentiary foundation because Parisi lacked an understanding of the software technology in the equipment. The trial court concluded: “[I]t seems to me that, given the nature of the evidence, the widely accepted use of computer card or rather fingerprint cards for comparison purposes, and the testimony that’s been adduced so far, I think it’s sufficiently authenticated to permit its introduction. Whether this evidence should be brought out in front of the jury as to the weight that the jury wishes to give to this particular card . . . I’m not precluding that testimony like that. But I think it’s sufficient to allow its admission.”

Parisi then went on to explain before the jury, *inter alia*, the process through which he compared the known prints from the defendant, memorialized on the scanned fingerprint card (known prints), with the unknown latent print he had located on the bag obtained from the victim’s car (unknown print). First, Parisi took the portion of the bag with the unknown print to the forensic photography section of his laboratory and had a photograph taken of the unknown print, stating that the portion of the bag with the unknown print never left his presence. Parisi then compared the known prints with the photograph of the unknown print, and testified in detail about that process.²² Parisi then testified that, based on the comparison he made between the unknown and known prints, he concluded with reasonable scientific certainty that the unknown print matched the known print of the defendant’s left middle finger.²³ Parisi also testified that his conclusion was independently verified, using the exact same methodology and procedure, by at least one other fingerprint examiner.

On appeal, the defendant claims that the state did not provide a sufficient foundation for the admission of the fingerprint evidence because Parisi did not know “how the software [in the computer scanner] manipulated or converted the images, what the rate of error was in producing the images, or if there was any peer review conducted of that scientific methodology.” The defendant further claims that the trial court abused its discretion by admitting the fingerprint evidence without first assessing its reliability under the factors articulated in *State v. Porter*, *supra*, 241 Conn. 57. We disagree with

both claims.

In *American Oil Co. v. Valenti*, 179 Conn. 349, 359, 426 A.2d 305 (1979), this court first addressed the standard to be utilized in admitting computer generated evidence and adopted a general rule requiring “testimony by a person with some degree of computer expertise, who has sufficient knowledge to be examined and cross-examined about the functioning of the computer.” In *State v. Swinton*, supra, 268 Conn. 807, we further developed this standard, however, in addressing “the appropriate foundational requirements for computer generated or computer enhanced evidence that does not constitute business records.” First, we concluded that the standard articulated in *American Oil Co.* “does not dictate that the only person capable of such expertise is the programmer of the software.” Id., 810. Rather, we acknowledged that the standard could be satisfied by the testimony of a person who “was capable of testifying in specific detail as to *the process*” through which the evidence was generated. (Emphasis added.) Id.

In addition, we refined the *American Oil Co.* standard by adopting the following factors utilized to establish *authentication* under rule 901 of the Federal Rules of Evidence: “(1) the computer equipment is accepted in the field as standard and competent and was in good working order, (2) qualified computer operators were employed, (3) proper procedures were followed in connection with the input and output of information, (4) a reliable software program was utilized, (5) the equipment was programmed and operated correctly, and (6) the exhibit is properly identified as the output in question.” (Internal quotation marks omitted.) Id., 811–12. We stressed, however, “that these factors represent an approach to the admissibility of computer generated evidence, and *not a mechanical, clearly defined test* with a finite list of factors to consider. . . . Trial courts must have *considerable latitude* in determining the admissibility of evidence in this area as in others. . . . Although a trial court should weigh and balance these factors and decide whether they ultimately support the admissibility of the evidence, we offer these factors to serve as guideposts, and *do not suggest that these factors necessarily are to be held in equipoise.*”²⁴ (Citations omitted; emphasis added; internal quotation marks omitted.) Id., 814.

In addressing the defendant’s claims, we must first determine whether the live scan fingerprint card utilized by Parisi constitutes computer generated evidence under our case law. In *Swinton*, we determined that enhanced photographs were different from enlarged photographs, because the enhancement process in that case “reveal[ed]” parts of the image that were not before visible. *State v. Swinton*, supra, 268 Conn. 804. We decided, therefore, that “because . . . we cannot be

sure to what extent the difference between presenting evidence and creating evidence was blurred, we let caution guide our decision”; *id.*; and concluded that, “to the extent that a computer was both the process and the tool used to enable the enhanced photographs to be admitted as evidence, we consider these exhibits, *for purposes of this analysis*, to be computer generated.” (Emphasis added.) *Id.*, 805. Based upon our rationale underlying the foregoing conclusion in *Swinton*, the fingerprint card in the present case also constitutes computer generated evidence, as the use of the equipment was necessary to produce the card that was ultimately entered into evidence.

Although the fingerprint card constitutes computer generated evidence under the definition in *Swinton*, the card is markedly different from the enhanced photographs that were admitted into evidence in *Swinton*. Parisi testified that the scanner that produces the fingerprint card does not enhance the fingerprint or reveal anything that was unviewable prior to the creation of the card. See footnote 20 of this opinion. Given this evidentiary distinction and considering that a more reliable type of computer program may well warrant application of a less stringent foundational requirement; see *State v. Swinton*, *supra*, 268 Conn. 831 n.51; as well as the fact that we have adopted factors utilized under rule 901 of the Federal Rules of Evidence²⁵ for purposes of conducting foundational analysis of computer generated evidence, we look to federal case law for guidance in determining whether there was a proper foundation for the fingerprint evidence in the present case. See, e.g., *Jacobs v. General Electric Co.*, 275 Conn. 395, 407, 880 A.2d 151 (2005) (“[w]here a state rule is similar to a federal rule we review the federal case law to assist our interpretation of our rule” [internal quotation marks omitted]); *State v. Swinton*, *supra*, 268 Conn. 811 (“[a]s we have in the past, we look to the federal rules for further guidance”).

We find the decision in *United States v. Lauder*, 409 F.3d 1254 (10th Cir. 2005), to be highly persuasive. In *Lauder*, the defendant objected to the admission of fingerprint cards containing his known prints, which were obtained through the use of a technology referred to as the “live-skin method.” *Id.*, 1262. The live-skin method, as described by the fingerprint expert in *Lauder*,²⁶ is markedly similar to the “live scan” method that was utilized to produce the fingerprint cards in the present case. See footnote 20 of this opinion. The court in *Lauder* stated that, “[i]n essence, the live-skin method entails the use of a machine that records fingerprints much as a copy machine duplicates paper copies.” *United States v. Lauder*, *supra*, 1262. The similarities with the present case do not, however, end there. The court in *Lauder* further stated: “[The expert] took the stand and described the processes she followed in matching [the defendant’s] known print to

the latent print found on the plastic bag. On voir dire examination, [the defendant] attempted to show that the live-skin method involved new technology that lacked reliability. [The expert] admitted, for example, that she was not aware of any testing done by a scientific body. Nor did she know its potential error rate, whether it has been accepted by the scientific community, or whether it had been subjected to peer review. However, [the expert] stated that the live-skin method has been in use for approximately eight years and is routinely used by the [Federal Bureau of Investigation, the federal Drug Enforcement Administration, the] United States Marshals Service, and numerous local police departments. Other than cross-examination, [the defendant's] counsel made no proffer of evidence contesting the expert's methodology or the reliability of the equipment used to capture the print. Following voir dire, the [D]istrict [C]ourt admitted the live-skin fingerprint cards." *Id.*, 1263.

The defendant in *Lauder* claimed that the District Court had failed to make any findings regarding the reliability of the live-skin method, and, therefore, that it committed reversible error under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993). *United States v. Lauder*, supra, 409 F.2d 1263. The court concluded that *Daubert* was inapplicable, however, since the defendant did not challenge the expert's qualifications as a fingerprint expert or the methodology utilized in comparing the defendant's known print to the latent print, but rather only challenged "the evidence-gathering equipment" used to record his known print. *Id.*, 1264. The court also determined that "the admissibility of the fingerprint cards is governed by the evidentiary rules regarding foundation and authentication" and that "the proper objection would arise under [r]ule 901, not [r]ule 702/*Daubert.*" *Id.*, 1264–65. The court stated that the issue, then, "is whether the government laid a sufficient foundation for the fingerprint cards under [r]ule 901," and that the "authenticity of a fingerprint card may be inferred from circumstantial evidence" *Id.*, 1265. The court concluded that the District Court properly had admitted the fingerprint evidence, based, inter alia, on its determination that there was sufficient circumstantial evidence adduced from testimony to authenticate the fingerprints. *Id.*, 1266.

We find the court's reasoning in *Lauder*—namely, that a challenge to the admissibility of fingerprint cards is not governed under the standard set forth in *Daubert*—to be persuasive. As we adopted the *Daubert* standard in *State v. Porter*, supra, 241 Conn. 57, we, therefore, reject the defendant's claim that the trial court improperly analyzed the admissibility of the fingerprint cards by not specifically referring to the factors articulated in *Porter*.²⁷ The defendant may have put forth a proper claim under *Porter* had he challenged

the ACEV methodology employed by Parisi,²⁸ but he simply did not make this challenge before the trial court.

We also reject the defendant's claim that the state proffered an inadequate foundation simply because Parisi did not have detailed knowledge of the software in the equipment that produced the fingerprint cards. See *State v. Swinton*, supra, 268 Conn. 817 (expert had sufficient knowledge of processes to lay adequate foundation, despite not knowing algorithms utilized in computer program or of any published errors rates for program). Rather, we conclude that there was, in fact, an adequate foundation to admit the fingerprint evidence in this case. First, Parisi testified that more than sixty agencies in Connecticut are converting to this scanned fingerprinting system, which indicates that this type of system has been accepted in the field. Second, Parisi is a highly trained fingerprint examiner who employed a widely accepted methodology in comparing the known and unknown prints, and through the use of this methodology determined that the print from the defendant's left middle finger was a "[100] percent match" with the unknown print obtained from the crime scene. Third, Parisi's conclusion was independently verified by at least one other print examiner who utilized the exact same methodology. Fourth, because of the nature of fingerprints themselves—namely, that no two people have the same fingerprints—the fact that the defendant's print matched the unknown print provides strong inferential support that the equipment used to generate the fingerprint card was reliable. See *United States v. Patterson*, 277 F.3d 709, 713–14 (4th Cir. 2002) ("that the machine generated an inaccurate fingerprint image that happened to be identical to a fingerprint recovered by a different person using a different process in a different location—is simply implausible"). Accordingly, we conclude that: (1) the state introduced a proper foundation for the admission of the fingerprint evidence; (2) the trial court did not abuse its discretion by admitting the fingerprint evidence at trial; and (3) the defendant's sixth amendment right to confrontation was, therefore, not violated.

B

The defendant next claims, inter alia, that the state did not provide a sufficient foundation for the admission of the DNA evidence, which also violated his sixth amendment right to confrontation. Specifically, the defendant claims that, although the software used to produce the DNA evidence is proprietary, and, therefore, is protected by the manufacturer of the software, the state did not lay a proper foundation because one of the state's DNA experts did not know the exact details of how the software worked. The state claims, inter alia, that the testimony adduced by *both* of its DNA experts meets the foundational standard articulated in *State v. Swinton*, supra, 268 Conn. 804. We agree with

the state.

The record reveals the following additional facts and procedural history that are relevant to our resolution of this claim. The state offered DNA evidence through two different experts—Carll Ladd, a supervisor of the state police forensic laboratory’s DNA section (laboratory), and Nicholas Yang, the lead criminologist there. We begin with the testimony given by Ladd. Ladd testified as to his extensive qualifications,²⁹ and stated that he had worked at the laboratory for thirteen years, including ten years as a supervisor. Ladd also stated that he has extracted thousands of DNA profiles from various evidence, and that he personally does DNA profiling in addition to his supervisory duties.

Ladd testified about the general and specific methodology used in DNA testing, and stated that “[t]here’s a standard software used by pretty much the entire forensic community to analyze DNA results.” Ladd further stated: “The software is called Gene Scan and Geno Typer. It’s a software package produced by Applied Biosystems, a company from Foster City, California.” Ladd then explained what Gene Scan and Geno Typer each do, respectively, and testified that the laboratory had used the software “on case work since the summer of 1999. We used it for a solid year or more before that for the basic validation that we did before bringing the procedure on line.” Ladd further described, in detail, the “very lengthy, rigorous” validation and control processes the laboratory conducted on the software.

Since the completion of the year long validation process, Ladd testified that the software has been utilized “in approximately 2800 cases in the state of Connecticut, and we’ve testified in something over 150 times using this basic technology in Connecticut courts.”³⁰ Ladd also stated that once the results from the software are printed out after a DNA test has been completed, “[t]here’s a complete review by two DNA scientists. We don’t rely just on the software blindly. We take all of the results, and two analysts independently review all of the work before it’s reported out.”

On cross-examination, Ladd testified that the software is proprietary information, and that the manufacturer of the software, therefore, refuses to disclose the primer sequences in the software. Ladd stated that, although he does not know “all of the algorithms behind the software,” he and his employees “test the software under controlled conditions; and we verify that we always get the correct result. That’s how we know the software is working correctly.” Ladd continued: “I’m not trying to determine exactly how the software works; I’m trying to determine whether the software is reliable.”

At the close of Ladd’s testimony, the defendant’s counsel objected to the admission of the DNA evidence

on the ground that the state failed to provide a sufficient foundation, specifically, that the state did not provide the proprietary information of exactly how the software operated. Citing *State v. Sivri*, 231 Conn. 115, 646 A.2d 169 (1994), and General Statutes § 54-86k (a),³¹ the trial court first noted that “DNA testing is now generally accepted in the scientific community.” The trial court then concluded that the software is used in the general field and has been tested for reliability, and further concluded that if it determined that the criminologist, after testifying, was qualified, the *Swinton* standard would be met.

Yang testified that he is the lead criminologist with the laboratory, and that he has worked at the laboratory for approximately seven years. Yang further stated that he received a bachelor’s degree in biochemistry, a master’s degree in forensic science, and that he was working toward a PhD. Yang testified that he had directly performed DNA testing on thousands of samples during his tenure at the laboratory, and that he has provided in-court testimony, concerning DNA testing, on more than two dozen occasions.

Yang testified, in detail, about the laboratory’s process of how it conducts DNA testing. Yang testified that he received an oral swab containing a DNA sample taken from the defendant, and that he extracted the defendant’s DNA from the swab. Yang then compared the defendant’s DNA profile obtained from the swab with DNA profiles obtained from items gathered at the crime scene. After performing the profile comparisons, Yang testified that the defendant was the source of, or a contributor to, several of the DNA profiles obtained from the crime scene.

Yang testified that he used the software in conducting the DNA testing. Yang further acknowledged that the manufacturer of the software considers the specific details about how the software works to be proprietary, and that, therefore, he does not know the “code” of the software. Yang testified: “We don’t know the sequence of the primers, but we have characterized their kits, their machines, through our validation data. And practically all the labs in the [United States] use the same kit on the same type of instrumentation. So those kits have been characterized quite well in the [United States], as well as Europe.” Yang also testified that the laboratory has used the software for at least seven years, and that the laboratory extensively validated the software for at least one year prior to that. Finally, Yang testified that the laboratory has utilized the software on “[p]retty much every single case that we’ve done DNA testing,” and that there has been no reason to think that the software was unreliable.

On the basis of the testimony adduced by both Ladd and Yang, the *Swinton* factors articulated in part III A of this opinion *clearly* have been met. First, the software

is not only accepted, but also is utilized by other forensic experts worldwide. Second, Yang was qualified to operate the software in performing DNA testing. Yang's testimony indicates that not only is he well trained, but he also serves as the lead criminologist in the DNA section of the laboratory. Yang further testified in detail about the process of DNA testing, and that he has extensive experience in both operating the software and conducting DNA testing.³² Third, the extensive validation and control processes conducted on the software, as well as the independent verification of DNA testing results, fairly demonstrate that: (1) proper procedures were followed and the software functioned correctly; and (2) the software is reliable. Accordingly, we conclude that: (1) the state provided a sufficient foundation for the admission of the DNA evidence; (2) the trial court did not abuse its discretion in admitting the DNA evidence; and (3) the defendant's sixth amendment right to confrontation was, therefore, not violated.

The judgment is affirmed.

In this opinion the other justices concurred.

¹ The defendant appeals directly to this court pursuant to General Statutes § 51-199 (b), which provides in relevant part: "The following matters shall be taken directly to the Supreme Court . . . (3) an appeal in any criminal action involving a conviction for a capital felony, class A felony, or other felony, including any persistent offender status, for which the maximum sentence which may be imposed exceeds twenty years"

² In accordance with our policy of protecting the privacy interests of the victims of sexual assault, we decline to identify the victim or others through whom the victim's identity may be ascertained. See General Statutes § 54-86e.

³ The shootings were completely separate incidents from the crimes of which the defendant was ultimately convicted in this case, and the shootings themselves are not at issue in this case.

⁴ For each claim proffered in this appeal, "[t]he defendant also seeks review under the plain error doctrine. The plain error doctrine is based on Practice Book § 60-5, which provides in relevant part: The court shall not be bound to consider a claim unless it was distinctly raised at the trial or arose subsequent to the trial. The court may in the interests of justice notice plain error not brought to the attention of the trial court. . . . The plain error doctrine is reserved for truly extraordinary situations [in which] the existence of the error is so obvious that it affects the fairness and integrity of and public confidence in the judicial proceedings. . . . A party cannot prevail under [the] plain error [doctrine] unless [he] has demonstrated that the failure to grant relief will result in manifest injustice." (Internal quotation marks omitted.) *State v. Britton*, 283 Conn. 598, 617, 929 A.2d 312 (2007). The defendant has failed to explain why *any* of his claims "[merit] the extraordinary remedy of plain error review. We therefore decline his invitation to consider it." *Id.*

Similarly, the defendant also requests, for all of the claims proffered in parts I and II of this opinion, review pursuant to this court's inherent supervisory power. "In certain instances, dictated by the interests of justice, we may, *sua sponte*, exercise our inherent supervisory power to review an unpreserved claim that has not been raised appropriately under [*State v. Golding*, 213 Conn. 233, 569 A.2d 823 (1989)] or [the] plain error [doctrine]. Appellate courts possess an inherent supervisory authority over the administration of justice. . . . The standards that [are] set under this supervisory authority are not satisfied by observance of those minimal historic safeguards for securing trial by reason which are summarized as due process of law Rather, the standards are flexible and are to be determined in the interests of justice. . . . [O]ur supervisory authority is not a form of free-floating justice, untethered to legal principle." (Internal quotation marks omitted.) *State v. Ramos*, 261 Conn. 156, 172 n.16, 801 A.2d 788 (2002). In light of our extensive review of the record, as well as our conclusions herein, we also conclude that the interests of justice do not require that we review

any of the defendant's claims under this court's inherent supervisory power.

⁵ “We note that the defendant has failed to provide an independent analysis of his state constitutional claim under *State v. Geisler*, 222 Conn. 672, 684–86, 610 A.2d 1225 (1992). We have repeatedly apprised litigants that we will not entertain a state constitutional claim unless the defendant has provided an independent analysis under the particular provisions of the state constitution at issue. . . . Without a separately briefed and analyzed state constitutional claim, we deem abandoned the defendant's claim.” (Internal quotation marks omitted.) *State v. Randolph*, 284 Conn. 328, 375 n.12, 933 A.2d 1158 (2007).

⁶ Under *State v. Golding*, supra, 213 Conn. 239–40, a defendant may prevail on unpreserved claims only if: “(1) the record is adequate to review the alleged claim of error; (2) the claim is of constitutional magnitude alleging the violation of a fundamental right; (3) the alleged constitutional violation clearly exists and clearly deprived the defendant of a fair trial; and (4) if subject to harmless error analysis, the state has failed to demonstrate harmlessness of the alleged constitutional violation beyond a reasonable doubt.” “The first two *Golding* requirements involve whether the claim is reviewable, and the second two involve whether there was constitutional error requiring a new trial.” *State v. Fabricatore*, 281 Conn. 469, 477, 915 A.2d 872 (2007).

⁷ The issue before us is whether the police had probable cause to arrest the defendant for his involvement in the shootings, *not* whether they had probable cause to arrest the defendant for his involvement in the crimes of which he was convicted in this case. During the suppression hearing, Quinn testified, inter alia, that: (1) the police department had obtained information that the defendant may have been involved in the shootings; and (2) Quinn and three other detectives, therefore, went to the defendant's home with the intention of asking him to accompany them to the police department to answer some questions. Other than Quinn's testimony that the police department had “receive[d] information” that the defendant may have been involved in the shootings, no more specific detail concerning probable cause—regarding why the police sought to question the defendant about the shootings—was proffered by any witness during the hearing, nor was more specific detail sought by the defendant's counsel during the hearing.

At the time the defendant accompanied the detectives to the police station, the police were not aware of the defendant's involvement in the crimes of which he was convicted in this case, and the shootings were then their sole focus of inquiry. Another suspect in the shootings, however, who the police were also questioning the same day as the defendant, provided information that led the police to believe that the defendant may have been involved in the crimes at issue herein. It was on the basis of that information that the police sought the defendant's consent to obtain the DNA evidence. Indeed, the defendant provided written consent for the police to obtain a DNA sample only *after* he gave a tape-recorded statement detailing his involvement in the shootings. The defendant, therefore, was already in custody for his involvement in the shootings by the time he gave consent for the DNA sample to be taken. Furthermore, we conclude in part I D of this opinion that the defendant's consent to give a DNA sample was voluntary, which, therefore—regardless of the information provided by the other suspect—obviated the need for probable cause to obtain the sample. See *State v. Nowell*, 262 Conn. 686, 699, 817 A.2d 76 (2003) (“[i]t is . . . well settled that one of the specifically established exceptions to the requirements of both a warrant and probable cause is a search [or seizure] that is conducted pursuant to consent” [internal quotation marks omitted]).

⁸ We note that the following exchange took place between the defendant's attorney and the defendant:

“Q. Okay. And so did you understand [the *Miranda* rights]?”

“A. Yes.

“Q. And when you put your initials next to the following, ‘I have the right to remain silent,’ did you understand what that meant?”

“A. Yes.

“Q. What did it mean?”

“A. That I don't have to talk.

“Q. Did you talk?”

“A. After?”

“Q. Yeah.

“A. Yes.

“Q. And did you feel that you were under any—did you feel that you had to talk?”

“A. No.

“Q. So nobody led you to believe you’re not leaving here until you answer our questions or anything like that?”

“A. No. Not at that time. . . .

“Q. When you signed the [*Miranda*] waiver did you understand that that meant you had a right to a lawyer?”

“A. When I signed it?”

“Q. Yeah. And initialed it.

“A. Yeah.”

⁹ “Even after a suspect has validly waived his or her rights, there exists a continuous opportunity to invoke or reinvoke the rights in any manner and at any stage of the process of interrogation.” (Internal quotation marks omitted.) *State v. Stoddard*, supra, 206 Conn. 173.

¹⁰ Specifically, the trial court stated: “Look, there’s a sharp conflict in the evidence at this point. I’ve considered all the evidence, and I find that the more credible evidence is that the defendant did not request counsel. There’s no need to recount in detail the evidence on this point. Suffice it to say that the record does indicate on exhibit four a right-to-waiver form which bears the defendant’s signature and that his statement . . . a transcript of which is in the record as exhibit C, acknowledges his understanding . . . of the rights and waiving those rights pertaining to counsel *and otherwise* in the statement itself.

“So the court finds that . . . both the statement and the waiver, are genuine documents representing the defendant’s understanding of and waiver of his right to counsel.” (Emphasis added.)

¹¹ Although the only evidence *articulated* by the trial court in its oral ruling was the defendant’s valid written and oral waiver of his *Miranda* rights, the trial court did not say that this was the *only* evidence upon which this finding was based. Rather, the court stated: “I’ve considered all the evidence, and I find that *the more credible evidence* is that the defendant did not request counsel. There’s no need to recount in detail the evidence on this point.” (Emphasis added.) After a thorough examination of the record, the only other evidence directly concerning whether the defendant requested the assistance of counsel is the conflicting testimony of the defendant and Quinn, namely, the defendant testified that he requested an attorney three times at the police station, while Quinn testified that the defendant never asked for the assistance of counsel. In finding that the defendant did not request the assistance of counsel, the trial court necessarily found the testimony of Quinn to be more credible.

¹² The trial court articulated, inter alia, the following additional facts and analysis: (1) the record indicates that the defendant “was processed into the detention center at 6:41 p.m.”; (2) “[i]t is a reasonable inference that when [the marshal] told . . . Stewart and . . . Riddick that [the defendant] was there, he meant what he said: He’s there in the detention center”; (3) a desk sergeant at the police station informed Riddick and Stewart “that he had no control of what goes on over there [in the detention center] . . . [a]gain, inference being that [the defendant] was at the time of the comment actually in the detention center”; and (4) “while . . . Stewart was unable to give us any fixed times, she did say that in her opinion it was twilight when she . . . and . . . Riddick moved over to the police department. . . . [I]n midsummer twilight is after 6 o’clock at night for most reasonable people.”

¹³ Furthermore, when Stewart and Riddick later went to the police station, an officer informed them: “I’m not in charge of what goes on over there.”

¹⁴ The defendant also claims that the trial court abused its discretion when it denied his motion to suppress because the trial court’s factual findings, as articulated in its oral ruling, were clearly erroneous. After reviewing the record, we are not “left with the definite and firm conviction that a mistake has been made.” (Internal quotation marks omitted.) *Testa v. Geressy*, 286 Conn. 291, 318, 943 A.2d 1075 (2008). Accordingly, we further conclude that the trial court’s factual findings were not clearly erroneous.

¹⁵ The defendant also claims that his consent was not voluntary because: (1) the police never informed him that Stewart was present to render legal assistance; and (2) the DNA evidence was the “fruit of the poisonous tree” because he was subjected to an illegal warrantless arrest. We already have concluded that Stewart arrived after the defendant had given his consent; see part I C of this opinion; and that the defendant was not subjected to an illegal warrantless arrest. See part I A of this opinion. Accordingly, we need not address these specific claims.

¹⁶ The consent form provides in relevant part: “I, Clifton Foreman, have

been informed of my constitutional rights not to have a search made without a search warrant, and my right to refuse to consent to such a search, do hereby consent to have Det. Quinn/Bureau of Investigation, of the New Haven department of police service . . . or other individuals as believed appropriate, conduct a complete search of . . . and/or D.N.A. swab located at 1 Union Ave. Connecticut These officers . . . are authorized to take from the aforesaid location any items or property as they believe appropriate and to perform or refer to another facility to perform any and all types of examination and testing, including laboratory examination and testing, on such items. This written permission is being given to me to the above named members of the above named agencies *voluntarily and without duress, threats, or promises of any kind.*" (Emphasis added.) The bottom of the consent form also shows the defendant's signature and date of signature, July 16, 2004, as well as the dated signatures of both Quinn and Carusone as witnesses.

¹⁷ The defendant also claims that his rights to a fair trial and against self-incrimination under the fifth and fourteenth amendments to the United States constitution were also violated. The defendant, however, does little more than provide conclusory assertions with regard to these claims, and, therefore, we decline to address them. See, e.g., *Connecticut Coalition Against Millstone v. Connecticut Siting Council*, 286 Conn. 57, 87, 942 A.2d 345 (2008) ("We are not obligated to consider issues that are not adequately briefed. . . . Whe[n] an issue is merely mentioned, but not briefed beyond a bare assertion of the claim, it is deemed to have been waived. . . . In addition, mere conclusory assertions regarding a claim, with no mention of *relevant authority* and minimal or no citations from the record, will not suffice." [Citations omitted; emphasis added; internal quotation marks omitted.]).

In addition, the defendant claims that his rights to confrontation and a fair trial, as well as his right against self-incrimination, were also violated under article first, § 8, of the Connecticut constitution. We decline to address these claims, however, because "the defendant has failed to provide an independent analysis of his state constitutional claim[s] under *State v. Geisler*, 222 Conn. 672, 684–86, 610 A.2d 1225 (1992)." *State v. Randolph*, 284 Conn. 328, 375 n.12, 933 A.2d 1158 (2007); see also footnote 5 of this opinion.

¹⁸ With regard to his qualifications, Parisi testified that he: (1) is certified by the International Association for Identification as a latent print examiner; (2) has received a bachelor's degree in criminal justice and a master's degree in forensic science; (3) has completed fingerprint training courses sponsored by the Federal Bureau of Investigation, the Massachusetts Police Academy, the Institute of Police Training and Management, and the International Association for Identification; (4) has instructed law enforcement officials in New Hampshire and Connecticut with regard to the collection, documentation and preservation of latent print evidence; and (5) has testified as a fingerprint expert in both federal and state courts in New Hampshire, Massachusetts and Connecticut.

¹⁹ Parisi testified that: "Our comparisons are conducted through a scientific methodology known as ACEV. It's an acronym that stands for analyze, compare, evaluate and verify. In the analyze stage we look at the latent print, the unknown print, to determine if there's enough information present where we can compare it to a known source.

"We then conduct a comparison with a known inked impression; we look at the ridge flow, the pattern itself, the ridge characteristics. What we mean by ridge characteristics would be you have raised portions that go from the tips of your fingers throughout your palms and the soles of your feet. Those raised portions do not run continuous, they end, fork, they reconvene. These are ridge characteristics. We look for those ridge characteristics, see if they lie in both impressions in the same relative area, if you will.

"We then conduct an evaluation where we use our education, training and experience where we come to a conclusion as to whether there's identification or not. Each examination is then verified by another examiner."

Parisi further testified during cross-examination: "Based on our training, education, experience, based on fact and history of fingerprints, fingerprints is a science. As I explained earlier, the comparison methodology using ACEV methodology is a scientific methodology. And every comparison we conduct is verified by one, if not two, examiners, which then conclude the same conclusions that the person does."

²⁰ Describing his understanding of how the "live scan" system worked, Parisi testified: "In terms of this system here is a live scan system in which you roll your impressions the same way you do with the inked impressions,

thumbs toward the body, fingers away. In terms of this system, it's rolled across a piece of glass, inkless, and the system records the impression on the screen."

²¹ In support of his claim that the state failed to provide a sufficient foundation for the fingerprint evidence, the defendant cited *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993); *State v. Porter*, supra, 241 Conn. 57; and *State v. Swinton*, supra, 268 Conn. 781.

²² During trial, the following exchange took place between the state's attorney and Parisi:

"Q. Now . . . Parisi, can you explain how you went about doing the comparison?"

"A. Certainly. First, on the left side marked latent print, that's a photographic enlargement again of latent print developed off of the plastic bag. On the right side is a photographic enlargement marked [known] print, which is the left middle finger off of the fingerprint card marked [with the name of the defendant].

"The black lines represent the ridges, which is the raised portions of your fingers; the white areas represent the valleys between your ridges. The red lines point to the ridge characteristics that correspond in each impression.

"Now, bear in mind for two fingerprints to be made by the same person, these impressions, these characteristics have to lie in both impressions in the same relative position. If you refer to the latent print area marked A, there's an ending ridge, a ridge coming down and ending in a downward motion. Going one ridge to the right and following it down is another ending ridge in a downward motion, indicated as B.

"Looking at the [known] prints, back to A, there's an ending ridge in a downward motion. Going one count to the right, following it down, there's another ending ridge indicated as B. These both lie in both impressions, and they're in the same relative position.

"If you look back at the latent print, refer back to B, if you follow it one count to the left there's an ending ridge in an upward motion, indicated as C. One count to the right and follow it down would be an ending ridge indicated as D.

"Referring to the [known] print, back to B, if you go one count to the left there's an ending ridge in an upward motion, indicated as C. One count to the right is another ending ridge in a downward motion, indicated as D. And, again, those also lie in both impressions and in the same relative position.

"Back to the latent print, back to D, if you go three counts to the left there's an ending ridge indicated as E. If you look at the [known] print, back to D, three counts to the left would be another ending ridge, indicated as E. And, again, that's another characteristic which lies in both impressions in the same relative position.

"And, without going through the rest of the chart, they were compared in the same way and remaining characteristics also lie in both impressions and in the same relative position.

"Q. All right. And so how many points of comparison do you find that match?"

"A. I charted eight characteristics; however, there's an excess of eight within that print. . . .

"Q. You consider . . . the unknown [latent print] is sufficiently clear in order to make an identification?"

"A. Yes, it is.

"Q. All right. And do you consider eight points of identification sufficient to make an identification—

"A. Certainly.

"Q. —in this situation?"

"A. Certainly."

²³ Parisi later testified during cross-examination that the unknown print and the known print of the defendant's left middle finger are "a [100] percent match." Parisi also testified that no two people in the world, including twins, have the same fingerprints.

²⁴ In *Swinton*, after we had applied the aforementioned factors to the facts of that case, we concluded that the state had laid an adequate foundation for the admission of enhanced photographs into evidence. *State v. Swinton*, supra, 268 Conn. 814. Specifically, we determined that: (1) the computer equipment—called "Lucis"—was relied upon by other experts in the field; id., 814–15; (2) the expert was qualified because "he was a well trained and highly experienced forensic analyst, and he testified to his qualifications as

an expert in the analysis of pattern evidence and the enhancement of that evidence”; *id.*, 815; (3) “the state presented evidence that proper procedures were followed in connection with the input and output of information”; *id.*; (4) the software program’s reliability was demonstrated through the expert’s testimony that, *inter alia*, he was aware of Lucis’ marketing papers and an article claiming the program has a feature that would “contribute greatly to a low error rate” and that he personally tested Lucis’ accuracy. *Id.*, 817. Furthermore, although the expert could *generally* describe how Lucis worked, the expert testified that: “he was not qualified as an expert in computer programs, generally, or in Lucis specifically, nor was he qualified as a programmer”; *id.*, 801; “he was not aware of how the computer makes the distinction as to how many layers there are in an image, or what the algorithm is, or how the algorithm actually sorts the layers”; *id.*; and “he had not seen any published error rates concerning the Lucis program.” *Id.* Nevertheless, we still concluded that the expert “had sufficient knowledge of the processes involved in the enhancement to lay a proper foundation.” *Id.*, 817.

²⁵ Rule 901 of the Federal Rules of Evidence provides: “(a) General provision.—The requirement of authentication or identification as a condition precedent to admissibility is satisfied by evidence sufficient to support a finding that the matter in question is what its proponent claims.

“(b) Illustrations.—By way of illustration only, and not by way of limitation, the following are examples of authentication or identification conforming with the requirements of this rule:

“(1) Testimony of witness with knowledge.—Testimony that a matter is what it is claimed to be.

“(2) Nonexpert opinion on handwriting.—Nonexpert opinion as to the genuineness of handwriting, based upon familiarity not acquired for purposes of the litigation.

“(3) Comparison by trier or expert witness.—Comparison by the trier of fact or by expert witnesses with specimens which have been authenticated.

“(4) Distinctive characteristics and the like.—Appearance, contents, substance, internal patterns, or other distinctive characteristics, taken in conjunction with circumstances.

“(5) Voice identification.—Identification of a voice, whether heard firsthand or through mechanical or electronic transmission or recording, by opinion based upon hearing the voice at any time under circumstances connecting it with the alleged speaker.

“(6) Telephone conversations.—Telephone conversations, by evidence that a call was made to the number assigned at the time by the telephone company to a particular person or business, if (A) in the case of a person, circumstances, including self-identification, show the person answering to be the one called, or (B) in the case of a business, the call was made to a place of business and the conversation related to business reasonably transacted over the telephone.

“(7) Public records or reports.—Evidence that a writing authorized by law to be recorded or filed and in fact recorded or filed in a public office, or a purported public record, report, statement, or data compilation, in any form, is from the public office where items of this nature are kept.

“(8) Ancient documents or data compilation.—Evidence that a document or data compilation, in any form, (A) is in such condition as to create no suspicion concerning its authenticity, (B) was in a place where it, if authentic, would likely be, and (C) has been in existence 20 years or more at the time it is offered.

“(9) Process or system.—Evidence describing a process or system used to produce a result and showing that the process or system produces an accurate result.

“(10) Methods provided by statute or rule.—Any method of authentication or identification provided by Act of Congress or by other rules prescribed by the Supreme Court pursuant to statutory authority.”

²⁶ The expert in *United States v. Lauder*, *supra*, 409 F.3d 1262–63, described the “live-skin method” as follows: “[It’s a] digitally-captured system. It’s what I will term live skin . . . because what it is, it’s a plate, it’s like a glass plate, and it has technology inside of it that when your finger is placed on a glass without ink, it will capture that friction ridged skin and it will appear to have black ink on it when you look on the computer monitor. . . . [A]fter you rolled your ten fingers, those are then printed out using a printer, a computer printer, and put on an [eight inch by eight inch] fingerprint card.” (Internal quotation marks omitted.)

²⁷ In *State v. Porter*, *supra*, 241 Conn. 57, “we set forth . . . a number of

different factors, *nonexclusive* and whose application to a particular set of circumstances *could vary*, as relevant in the determination of the threshold admissibility of scientific evidence. . . . In particular, we recognized the following considerations: general acceptance in the relevant scientific community; whether the methodology underlying the scientific evidence has been tested and subjected to peer review; the known or potential rate of error; the prestige and background of the expert witness supporting the evidence; the extent to which the technique at issue relies upon subjective judgments made by the expert rather than on objectively verifiable criteria; whether the expert can present and explain the data and methodology underlying the testimony in a manner that assists the jury in drawing conclusions therefrom; and whether the technique or methodology was developed solely for purposes of litigation.” (Emphasis added; internal quotation marks omitted.) *Prentice v. Dalco Electric, Inc.*, 280 Conn. 336, 344, 907 A.2d 1204 (2006), cert. denied, U.S. , 127 S. Ct. 1494, 167 L. Ed. 2d 230 (2007). We further determined, in *Porter*, that “scientific evidence should be subjected to a *flexible test*, with *differing factors that are applied on a case-by-case basis*” (Emphasis added; internal quotation marks omitted.) *Id.*, 343.

²⁸ But see, e.g., *United States v. Mahone*, 453 F.3d 68, 71–72 (1st Cir. 2006) (ACEV method “has been the subject of widespread publication,” is “highly accepted in the forensics field,” and “federal courts have found ACEV to be reliable under *Daubert*”).

²⁹ Ladd also testified, inter alia, that he: (1) has a PhD in genetics from the University of Connecticut; (2) has taught courses at universities concerning the forensic aspects of DNA testing; and (3) has published numerous articles concerning DNA testing.

³⁰ Ladd also testified that the software is “used by nearly every crime lab that does DNA testing in the United States, also Canada, Europe, Asia, pretty much throughout the world.” In addition, Ladd testified that there is extensive academic literature that “has clearly shown that [the software] is a reliable method and suitable for forensic case work.”

³¹ General Statutes § 54-86k (a) provides: “In any criminal proceeding, DNA (deoxyribonucleic acid) testing shall be deemed to be a reliable scientific technique and the evidence of a DNA profile comparison may be admitted to prove or disprove the identity of any person. This section shall not otherwise limit the introduction of any relevant evidence bearing upon any question at issue before the court. The court shall, regardless of the results of the DNA analysis, if any, consider such other relevant evidence of the identity of the accused as shall be admissible in evidence.”

³² We note that this same issue—involving, incidentally, the same expert—was recently before the Appellate Court in *State v. Blake*, 106 Conn. App. 345, 942 A.2d 496, cert. denied, 287 Conn. 922, A.2d (2008). In *Blake*, the Appellate Court determined: “Although Yang did not create the computer software used in the DNA testing, on the basis of Yang’s qualifications and familiarity with the DNA testing procedures and equipment, we conclude that the court correctly determined that he was sufficiently acquainted with the technology involved in the computer program that was used to generate the evidence in question, and, accordingly, the court did not abuse its discretion in allowing it into evidence.” *Id.*, 359.
