IN THE COURT OF COMMON PLEAS OF ALLEGHENY COUNTY, PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA

V.

MICHAEL ROBINSON,

Defendant

CRIMINAL DIVISION

CP-02-CR-0007777-2013

COMMONWEALTH'S ANSWER TO MOTION FOR *FRYE* HEARING

The Honorable Jill E. Rangos

Filed on behalf of the
Commonwealth of Pennsylvania

Counsel of Record for the
Commonwealth of Pennsylvania

STEPHEN A. ZAPPALA, JR.
DISTRICT ATTORNEY

By

DANIEL E. FITZSIMMONS
CHIEF TRIAL DEPUTY
PA. I.D. NO. 36474

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IN THE COURT OF COMMON PLEAS OF ALLEGHENY COUNTY, PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA	
V.	CP-02-CR-0007777-2013
MICHAEL ROBINSON	
Defendant	

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AND NOW, to wit, this 8th day of November 2016, comes the Commonwealth of Pennsylvania by its attorneys, STEPHEN A. ZAPPALA, JR., District Attorney, and DANIEL E. FITZSIMMONS, Chief Trial Deputy, and in answer to the above-captioned Motion for *Frye* Hearing, respectfully shows:

On October 28, 2016, Defendant, Michael Robinson, filed a Motion requesting that this Court hold hearing pursuant to *Frye v. United States,* 293 F. 1013 (D.C. Cir. 1923), to determine the admissibility of the testimony of Dr. Mark Perlin regarding his use of the TrueAllele software program to analyze a mixture of DNA found on a bandana in this case. The Commonwealth opposes this Motion and submits that the Motion should be denied by this Court without a hearing because Defendant has not plead facts in his Motion that would be sufficient to prove at a hearing that the scientific evidence at issue is "novel."

As this Court is well aware:

> Pennsylvania continues to adhere to the *Frye* test, which provides that "novel scientific evidence is admissible if the methodology that underlies the evidence has general acceptance in the relevant scientific community." *Betz v. Pneumo Abex LLC*, 998 A.2d 962, 972 (Pa.Super.2010) (en banc) (citing *Grady v. Frito–Lay, Inc.*, 576 Pa. 546, 839 A.2d 1038 (2003)). The *Frye* test is a two-step process. *See id.*

> First, the party opposing the evidence must show that the scientific evidence is "novel" by demonstrating "that there is a legitimate dispute regarding the reliability of the expert's conclusions." *Id.* If the moving party has identified novel scientific evidence, then the proponent of the scientific evidence must show that "the expert's methodology has general acceptance in the relevant scientific community" despite the legitimate dispute. *Id.* (internal quotation marks omitted).

Commonwealth v. Foley, 38 A.3d 882, 888 (Pa. Super. 2012).

In this Court's February 4, 2016, Memorandum Order addressing the defendant's Discovery Motion, this Court recognized that the Superior Court's holding in *Foley* is informative on the question before this Court now. This Court stated the following:

> In support of its assertion, Defendant alleges that TrueAllele's reliability cannot be evaluated without the source code. The Pennsylvania Superior Court, in *Commonwealth v. Foley,* 38 A.3d 882 (Pa. Super. 2012) *(en banc),* disagreed. The *Foley* court discussed whether TrueAllele testing was admissible pursuant to *Frye v. United States,* 293 F. 1013 (D.C. Cir. 1923) and in so doing found that TrueAllele was not "novel" science. *Foley* addressed the issue of assessing the reliability of TrueAllele without the production of the source codes and determined that scientists could validate the reliability of TrueAllele without the source code. *Id.* at 889-90. In addition, the *Foley* court noted that the trial court had "[found] Dr. Perlin's methodology [to be] a refined application of the "product rule," a method for calculating probabilities that is used in forensic DNA analysis." *Foley,* 38 A.3d at 888. The Superior Court noted that evidence based on the product rule previously has been deemed admissible under *Frye. Id.,* citing *Commonwealth v. Blasioli,* 713 A.2d 117, 1118 (Pa. 1998).

Memorandum Order, 02/04/16, p. 2. Indeed, among other questions, the Superior resolved the specific question of "Whether the Trial Court erred in admitting the testimony of Dr. Mark Perlin, in violation of the *Frye* test for the admissibility of novel scientific

testimony?" *Foley,* 38 A.3d at 885. In answering that question, the Superior Court stated: "We find that Dr. Perlin's testimony was not 'novel' as that term is defined in the governing law, and thus the trial court did not abuse its discretion in admitting the testimony." *Foley,* 38 A.3d at 888. Additionally, the Court stated: "Here, we find no legitimate dispute regarding the reliability of Dr. Perlin's testimony." *Id.*

To support his conclusion that a *Frye* hearing must be held in this case - notwithstanding the *Foley* holding by the Superior Court - Defendant states that *Foley* is inapplicable to the instant case because *Foley* "was a single source case." (*Frye* Motion, 10/18/16, p. 6, ¶ 26). This statement by the Defendant is simply erroneous; the Trial Court Opinion in *Foley* specifically stated: "The DNA sample involved here is a **mixed** sample obtained from the victim's fingernail." *See Commonwealth v. Foley*, Trial Court Opinion, 03/02/09, p. 1 (bold font added); *attached hereto.* The Superior Court Opinion, moreover, also recognized that the sample was not from a single source, stating: "A sample containing **DNA from the victim and another person** was found underneath the fingernail of the victim. This **mixed sample** was tested . . .." *Foley,* 38 A.3d at 887 (bold font added). Thus, Defendant's assertion on this point is baseless.

Also to support his conclusion that a *Frye* hearing must be held in this case, Defendant relies on the recently published 2016 Report from the President of the United States' Council of Advisors on Science and Technology ("PCAST"). In the 2016 PCAST Report, the authors make policy recommendations to the President including the following statement on which Defendant now relies to challenge the *Foley* Court's holding: "published evidence supports the foundational validity of analysis, with some programs, of DNA mixtures of 3 individuals in which the minor contributor constitutes at least 20% of the

intact DNA in the mixture[.]" (*See Frye* Motion, 10/18/16, p. 3, ¶ 14).[1] Petitioner suggests that this statement in the Report necessarily undermines the *Foley* holding since, in this case, there was a two or three person mixture of DNA with a minor contributor in a three person mixture contributing only 10% of the mixture, as opposed to the 20% minimum contribution that was suggested by the PCAST report. (*See Frye* Motion, 10/18/16, p. 3-4, ¶ 14-15).

In response to this claim, the Commonwealth would first note that the PCAST Report is inadmissible hearsay and that the Defendant does not attempt to explain in any manner how he believes he can overcome its exclusion under the Pennsylvania Rules of Evidence. *See* Pa.R.E., Rule 802.

Putting that major hurdle aside for a moment, though, even if one were to accept the quoted statement from the PCAST Report as true for the sake of argument, then it cannot be overlooked that the implication of the PCAST statement is that the person *being identified as the defendant* should not be a contributor of less than 20% of the DNA mixture. The statement does not seem to suggest, as Defendant alleges, that **no contributor** to the mixture – regardless of whether that person is named as the defendant – can be less than a 20% contributor.[2] Under the Defendant's strained interpretation of the PCAST statement, a three person DNA mixture which has the defendant contributing

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1 In the *Frye* Motion, Defendant fails to provide a citation to the PCAST Report following this quotation to show this Court where the quotation appears in the approximately 160 page Report.

It can be found on page 82 in the 2016 PCAST Report.

2 In the case before this Court, Robinson would be an approximately 45% contributor to a three person mixture and an approximately 50% contributor to a two person mixture. (*See Frye* Motion, 10/18/16, Exhibit C).

90% of the sample and the other two persons each contributing 5% would need to be excluded under the PCAST standard since there is a minor contributor who has contributed less than 20% of the overall mixture. Clearly, Defendant's strained interpretation cannot be the intended result since it would produce absurd outcomes where mixtures with only trace contributors to an otherwise almost entirely one person sample would need to be excluded.

More importantly, though, is the fact that the authors of the PCAST Report cite absolutely no authority or support for their statement on which Defendant now relies about the supposed "20% contribution minimum" for minor contributors. (*See* 2016 PCAST Report p. 82; *see also* Report p. 80, fn. 216). While this unsupported statement might be perfectly acceptable in a policy recommendation paper to the President, it does not provide reliable support for Defendant's underlying contention that the PCAST Report has directly undermined the Superior Court's precedential holding in *Foley* based upon a legitimate dispute among scientists in the relevant field.

On the other hand, although they were offered during the discovery hearing for a different purpose, it is relevant to point out now that Dr. Perlin was able to produce numerous peer reviewed articles for this Court during the discovery hearing to show that his method has been validated by peers in his field. *See* Pre-Trial Motions Hearing, 11/19/15, Commonwealth Exhibits # 3-9. The Superior Court recognized as much nearly 4 years ago, stating: "Nevertheless, TrueAllele has been tested and validated in peer-reviewed studies." *Foley,* 38 A.3d at, 889.

Moreover, it is notable that, since the Trial Court made its decision in *Foley* in 2009, several more peer reviewed articles have been published to further validate Dr. Perlin's

method. *See* Pre-Trial Motions Hearing, 11/19/15, Commonwealth Exhibits # 4-9. While in stark contrast to that fact, the Defendant has been unable to produce a single peer reviewed research article to support his position that Dr. Perlin's method is anything other than an extension of the "product rule" discussed and accepted by the *Foley* Court as non-novel science. *See Foley,* 38 A.3d at 888-890. Instead, Defendant simply offers the PCAST Report and the bootstrapped opinion of a single person, Dr. Jamieson, who also relies on the unsupported PCAST Report. (*See Frye* Motion, 10/18/16, p. 4, ¶ 20). While that opinion by Dr. Jamieson might ultimately provide grounds to dispute the weight that the factfinder should give to Dr. Perlin's testimony during trial, the opinion by Dr. Jamieson does not, in and of itself, undermine the admissibility of the evidence under *Foley* nor does it succeed to convert non-novel science into novel science.[3]

As noted above, to warrant a hearing under *Frye*, the party opposing the evidence must show that the scientific evidence is "novel." Here, Defendant has not pled facts in his Motion that would be sufficient to prove at a hearing that there is a legitimate dispute among scientists in the relevant field about scientific methodology at issue. Instead, Defendant has only offered a single statement appearing in public policy paper that, in

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[3] In fact, even the Trial Court in *Foley* recognized that the challenge was partially a challenge to the weight that a factfinder should ascribe to the testimony, noting that: ". . . it appears that the argument of the Defendant is with the conclusion not the methodology. The weight to be given to the conclusion is subject to a consideration of the reliability of the information upon which it is based, in other words the foundation of the conclusion. Clearly the scientists can not (sic) just guess on the assumed data which has no support. That is not the case here. It is recognized that there is more information available which more conservative approaches do not consider. Therefore, it seems logical that the scientific community would work towards including that unused data to arrive at a more accurate finding. Therefore the Defendant's Motion goes more to weight than admissibility." *See Commonwealth v. Foley*, Trial Court Opinion, 03/02/09, p. 4.

addition to being unsubstantiated, would be inadmissible hearsay in this Court. Thus, for all of those reasons, the Commonwealth submits that the Defendant's Motion for *Frye* hearing should be denied because the Defendant has not overcome or distinguished the Superior Court's holding in *Foley* to show that the scientific evidence at issue in this case is "novel."

WHEREFORE, based on the foregoing, the Commonwealth respectfully requests that the Defendant's Motion For *Frye* Hearing be denied.

Respectfully submitted,

STEPHEN A. ZAPPALA, JR.
DISTRICT ATTORNEY

By: _____
DANIEL E. FITZSIMMONS
CHIEF TRIAL DEPUTY

COMMONWEALTH OF PENNSYLVANIA	:	**IN THE COURT OF COMMON PLEAS**
	:	**INDIANA COUNTY, PENNSYLVANIA**
	:	
	:	
vs	:	**NO. 1170 CRIM 2007**
	:	
KEVIN J. FOLEY,	:	
	:	
Defendant.	:	

OPINION AND ORDER OF COURT

MARTIN, P.J.

The Defendant has challenged the admissibility of the DNA evidence as expressed in the expert reports of Dr. Robin Cotton and Dr. Mark Perlin. The objection is based upon Frye v. United States, 54 App. D.C. 46, 293 F. 1013 (1923). Pennsylvania has adopted the "Frye Rule". Commonwealth v. Topa, 471 Pa. 223, 369 A.2d 1277 (1977). Purusant to the Frye rule to be admissible at trial "novel scientific evidence" must have gained general acceptance in the relevant scientific community. The Frye test is set forth in Rule No. 702, Pa.R.E. 42 Pa.C.S.A. which provides that novel scientific evidence is admissible if the methodology that underlines the evidence has general acceptance in the relevant scientific community. To make this determination trial courts conduct "Frye Hearings".

The Commonwealth in response to the Defendant's Motion in Limine maintains that the methodology utilized by Dr. Cotton and Dr. Perlin do not constitute novel scientific evidence and therefore no hearing is required. In the alternative, the Commonwealth maintains that under the Frye rule the evidence is admissible. The DNA sample involved here is a mixed sample obtained from the victim's fingernail. The analysis of the DNA was done by the

laboratory at the Federal Bureau of Investigation. Both Dr. Cotton and Dr. Perlin utilized the FBI data in arriving at their results and opinions.

The FBI, Dr. Cotton and Dr. Perlin all used the "product rule" in the calculations of probability. It is clear that in Pennsylvania the product rule is not considered novel science and therefore Frye and Rule 702 are not applicable. Commonwealth v. Blasioli, 552 Pa. 149, 713 A.2d 1117 (1998).

Dr. Cotton used the data generated by the FBI for analysis. She also used the same computer software utilized by the FBI, however, she had an updated version. She utilized an RFU threshold of 50 as opposed to the FBI threshold of 200. She also went a step further in her analysis by subtracting out the major contributor in the mixed sample. Nothing done by Dr. Cotton is outside the appropriate utilization of the product rule. The Defendant may question the results, however, Frye does not operate to bar disputed conclusions so long as the methodology is accepted. Commonwealth v. Dengler, 586 Pa. 54, 890 A.2d 372 (2005); Grady v. Frito Lay, Inc., 576 Pa. 546, 839 A.2d 1038 (2003); Commonwealth v. Puksar, 951 A.2d 267 (Pa. 2008).

The Court finds that the Motion in Limine is denied as to Dr. Cotton. As stated, she utilized the product rule which is not considered novel science by the Commonwealth. In addition, her methodology has been accepted by a number of states including the Commonwealth of Pennsylvania. Therefore, even if her methodology were analyzed pursuant to Frye the Court finds it has gained the required general acceptance of the relevant scientific community.

When looking at Dr. Perlin's testimony, report and supporting documents the questions becomes at what point does the use of the product rule become novel science. In other words, at what point does it then become necessary to apply the Frye rule to the use of a court

recognized methodology? As science advances are better techniques and results not to be expected subject to the scrutiny of the scientific community? It is not for the Court to judge the science rather it is for the scientific community to express acceptance. Mathematics is already a part of the DNA process as is computer application. The question is then if Dr. Perlin's computer methodology is generally accepted.

In support of this acceptance the Commonwealth has presented the opinion of Dr. Cotton that mathematics and computer science are now a part of the scientific community. The Court does realize that Dr. Cotton is a witness in this matter and has collaborated in the past with Dr. Perlin. The Commonwealth also presented forty-five (45) articles discussing different portions of the DNA mixture interpretation methodology utilized by Dr. Perlin involving computer interpretation of STR data, statistical modality and computation, likelihood ratio and computer systems for quantitative DNA mixture deconvolution. These articles authored by members of the relevant scientific community discuss with approval the different methodologies involved in Dr. Perlin's analysis.

In addition, the Commonwealth references the 2006 article, DNA Commission of the International Society of Forensics Genetics: Recommendations on the Interpretation of Mixtures (Commonwealth's Exhibit No. 14) which among other things compared the probability of exclusion method which is utilized by the FBI and the likelihood ratio method utilized by Dr. Cotton and Dr. Perlin. The article recognizes that the probability of exclusion method discards information which the likelihood ratio considers. The recommendation of the Commission was that the likelihood ratio is the preferred approach to mixture interpretation. Considering that both Dr. Cotton and Dr. Perlin utilized the product rule but also consider additional information

as stated in the International Society of Forensics Genetics article to make a more efficient use of the information, it appears that the argument of the Defendant is with the conclusion not the methodology. The weight to be given to the conclusion is subject to a consideration of the reliability of the information upon which it is based, in other words the foundation of the conclusion. Clearly the scientists can not just guess on assumed data which has no support. That is not the case here. It is recognized that there is more information available which more conservative approaches do not consider. Therefore, it seems logical that the scientific community would work towards including that unused data to arrive at a more accurate finding. Therefore the Defendant's Motion goes more to weight than admissibility.

The Court finds that although Dr. Perlin utilized the product rule that does not give his methodology a pass if the utilization of the product rule is novel. The Court would then be required to consider the methodology pursuant to Frye and Rule 702. In Commonwealth v. Crews, 536 Pa. 508, 640 A.2d 395 (1994), the court held that both the theory and the technique must be generally accepted. Crews was decided prior to the acceptance of the product rule. Dr. Perlin has developed a methodology which utilizes computer or automated DNA data review technology. The theory is the product rule, the technique is the use of the product rule which in regards to Dr. Perlin is the computer interpretation of data pursuant to the product rule.

Articles from Dr. James M. Curran, Forensic Statistician (Commonwealth's Exhibit No. 17), cites an article by Dr. Perlin in a discussion of the evaluation of DNA mixture cases. Dr. Curran's conclusions are similar to the work done by Dr. Perlin. The Croation

Medical Journal article authored by Dr. Christina S. Tomsey[1] et al (Commonwealth's Exhibit No. 15) discussed with approval the methodology utilized by both Dr. Cotton (subtraction of the known doner) and Dr. Perlin (peak height ratios to determine unknown profiles).

A list of DNA computer interpretations systems and the users thereof was admitted as Commonwealth's Exhibit No. 18. The list includes the agencies which utilized Dr. Perlin's TrueAllele technology. Among the users are the Allegheny County Crime Lab, the University of Pittsburgh and the Forensic Science Service of the United Kingdom (FSS). The FSS is an executive agency of the home office of the United Kingdom. FSS has the largest DNA data base in the world. FSS validated the TrueAllele process and utilizes the process for automated forensic DNA data review.[2]

Based upon a review of the evidence the Court finds that Dr. Perlin's methodology is admissible pursuant to the Frye rule and Rule 702.

[1] Dr. Tomsy is a former employee of the Pennsylvania State Police Laboratory in Greensburg. The Court considered any interest Dr. Tomsey may have based upon her prior relationship with the State Police. The article pre-dates the crime in this case.

[2] Article, Forensic Science Service Expands License for Cybergenetics Automated DNA Data Review Technology; Pioneering TrueAllele Software Helps Builds World's Largest DNA Database, Business Service Industry, Business Wire, July 26, 2004.
http://findarticles.com/p/articles/mi_m0EIN/is_2004_July_26/ai_n6122602?tag=content;col1

COMMONWEALTH OF PENNSYLVANIA	:	**IN THE COURT OF COMMON PLEAS**
	:	**INDIANA COUNTY, PENNSYLVANIA**
	:	
	:	
vs	:	**NO. 1170 CRIM 2007**
	:	
KEVIN J. FOLEY,	:	
	:	
Defendant.	:	

ORDER OF COURT

MARTIN, P.J.

AND NOW, this 2nd day of March 2009, this matter having come before the Court on the Defendant's Motion in Limine seeking to exclude the testimony of Dr. Robin Cotton and Dr. Mark Perlin and the Court having held a hearing thereon, it is hereby ORDERED and DIRECTED that the Motion in Limine is Denied.

BY THE COURT,

President Judge

PROOF OF SERVICE

I, the undersigned authority, hereby certify that this 8th day of November 2016, a true and correct copy of the within Commonwealth's Answer to Amended Post-Conviction Relief Act Petition was served upon the persons and in the manner indicated below. The manner of service satisfies the requirements of Pa.R.Crim.P. 575.

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