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## *KANDUNGAN*

## *KATA-KATA ALUAN PENAUNG*

Assalamualaikum Warahmatullahi Wabarakatuh

Tahniah diucapkan kepada Jawatankuasa Jurnal Akademik UiTM Cawangan Kedah khasnya dan warga akademik UiTM Cawangan Kedah amnya kerana telah berjaya menerbitkan penerbitan pertama WAHANA AKADEMIK iaitu Jurnal Akademik UiTM Cawangan Kedah. Usaha ini adalah sejajar dengan cabaran era globalisasi yang memerlukan keupayaan penguasaan dalam pelbagai bidang ilmu. Masyarakat yang tidak mempunyai ilmu akan terus ketinggalan dan terkebelakang dalam segala segi. Sebagai sebuah universiti, para pensyarah dapat memainkan peranan yang penting dalam menghadapi cabaran ini kerana ilmu yang diturunkan dalam bentuk penulisan dapat mengubah nasib sesebuah masyarakat. Oleh itu para pensyarah perlulah berusaha untuk melengkapkan diri dengan meningkatkan pengetahuan tentang bidang masing-masing serta komited dengan penulisan dan penerbitan.

Saya amat berharap kewujudan jurnal WAHANA AKADEMIK akan menjadi pemacu kepada percambahan dan pertumbuhan ilmu serta menjadi saluran utama kepada penerbitan pensyarah UiTM khasnya UiTM Cawangan Kedah.

Saya juga berharap penerbitan jurnal ini dapat dimanafaatkan oleh semua warga kampus UiTM khasnya dan masyarakat amnya dalam usaha untuk memperbanyakkan lagi khazanah ilmu.

Akhir kata, saya sekali lagi mengucapkan setinggi-tinggi penghargaan dan syabas di atas kejayaan menerbitkan WAHANA AKADEMIK.

Sekian. Terima kasih.

Wassalam.

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## *KATA-KATA ALUAN PENASIHAT*

Assalamualaikum Warahmatullahi Wabarakatuh

Saya mengambil kesempatan ini untuk merakamkan ucapan terima kasih kepada Jawatankuasa Jurnal Akademik Universiti Teknologi MARA Cawangan Kedah di atas usaha menerbitkan WAHANA AKADEMIK. Penerbitan jurnal ini adalah selaras dengan aspirasi negara yang mahukan setiap rakyatnya mempunyai ilmu pengetahuan.

Kegiatan penulisan dalam pembentukan profesyen seorang pensyarah di institusi pengajian tinggi adalah sangat penting. Ini adalah kerana dengan melibatkan diri di dalam penulisan akademik, pensyarah dapat menunjukkan bahawa ia sentiasa berusaha untuk melengkapkan diri dan berkemampuan untuk meningkatkan ilmu pengetahuan sesuai dengan tarafnya sebagai seorang ahli akademik. Walau pun sibuk dengan beban pengajaran yang banyak, tetapi pensyarah tidak wajar menjadikannya sebagai alasan untuk tidak terlibat dalam bidang penulisan. Oleh itu, saya menyeru agar pensyarah sekelian berusaha menjadikan penulisan sebagai satu budaya serta memainkan peranan dengan sebaik-baiknya bagi menyempurnakan kegiatan yang berfaedah ini.

Saya juga berharap agar pensyarah menggunakan peluang untuk mendalami ilmu, mengemukakan pendapat dan seterusnya menyebarkan pengetahuan melalui ruang yang disediakan oleh WAHANA AKADEMIK ini dengan sebaik mungkin. Sesungguhnya penerbitan jurnal ini merupakan satu mekanisma yang dapat mempertingkatkan status akademik pensyarah UiTM Cawangan Kedah di mata masyarakat.

Sekian. Semoga segala usaha dan sumbangan bakti Jawatankuasa tuan/puan semua diberkati Allah S.W.T.

Wassalam.

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## *DARI KETUA PENYUNTING*

Assalamualaikum Warahmatullahi Wabarakatuh

Syukur kepada Allah kerana penerbitan pertama 'WAHANA AKADEMIK,' iaitu jurnal akademik pertama Universiti Teknologi MARA Cawangan Kedah akhirnya dapat diterbitkan. Usaha untuk menerbitkan jurnal ini lahir daripada kesedaran bahawa budaya penulisan perlu dipupuk di kalangan ahli akademik. 'Wahana' yang bermakna alat untuk melahirkan atau menyampaikan fikiran atau pendapat diharap akan dapat dimanafaatkan oleh ahli akademik dalam usaha untuk menyalur dan berkongsi maklumat mengenai perkembangan pelbagai bidang akademik kepada pembaca.

Semua pihak dialu-alukan untuk mengemukakan karya penulisan dan penyelidikan yang belum pernah diterbitkan untuk dimuatkan di dalam jurnal ini. Penulisan boleh dibuat dalam bentuk karya asal penyelidikan, kajian kes, ulasan artikel, pendapat dan lain-lain bentuk penulisan akademik daripada berbagai disiplin pengajian.

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***Wan Faizah bt. Wan Abdullah***

# THE ADMISSIBILITY OF DNA PROFILING UNDER ISLAMIC LAW OF EVIDENCE

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***ABSTRACT***

*DNA technology is being increasingly used to offer new solutions to problems that are not easily solved using traditional methods. Continuous development in DNA technology has resulted in masses of technical details, which are often left unchallenged, and yet may contain vital evidence. Hence, this paper will highlight the nature and basic principles of DNA and DNA profiling, and the importance of its application in this era of information, communication, and technology. The paper will focus on the issue of the admissibility of DNA profiling under the Islamic Law of Evidence. However, the discussion is rather general and does not focus on any particular type of crime, in order to give a wider view on the matter.*

***Key words:*** ***DNA, DNA Profiling, Islamic Law of Evidence***

## INTRODUCTION

Recently, the development of DNA profiling or, as it is sometimes called, *'fingerprinting,'*[1] using blood or other bodily tissue has resulted in a scientific method which can effectively establish the identification of a certain individual from the samples of tissues taken. It has been, in recent years, particularly important in matters of family law, such as establishing a child's paternity.

Now, in addition to that, DNA profiling has revolutionized the way that forensic labs analyze blood and other body tissues recovered from the scenes of crimes. It has also redefined the role of the forensic lab by enabling the lab to provide information, which actually identifies a potential suspect in addition to its traditional role of providing corroborative information from scientific tests to confirm an investigative theory. In other words, DNA profiling has an increasingly vital role to play in forensic investigations in identifying the perpetrators of a crime.

For instance, in a reported case from US, Andrews v. State of Florida ,[2] the State presented DNA identification evidence linking the accused to the crime of sexual battery. The DNA profile compared the DNA structure of the accused as found in his blood with the DNA structure of the victim's blood and the DNA found in the vaginal swab taken from the victim shortly after the attack. The test concluded that the chance of the DNA strands found in the blood of the accused duplicating in some other person's cell was 1 in

839,914,540. The accused was convicted of the offence on this evidence and the appellate court held that the trial court had not abused its discretion in ruling the test results admissible.

In fact, by that time the above test had been used in several very well publicized English trials. However, the issue of its admissibility remains crucial to be examined on a case-to-case basis in order to ensure that justice prevails.

## THE NATURE OF DNA PROFILING

### DNA

DNA stands for deoxyribonucleic acid, a chemical found in the nucleus of cells in the body. DNA is responsible for the production of proteins and genes in the body and has a unique structure for every individual except for identical twins. Because of this unique arrangement, it can be used to identify an individual in a way similar to fingerprinting.

But because DNA can be found in a person's blood, hair, saliva, bones and other cellular materials, DNA evidence is more likely than fingerprint evidence to be recoverable from a crime scene. [3] And because an individual's DNA is inherited from his parents, his identity can be confirmed through a comparison with their DNA.

A prior DNA record is not necessary. However, in order to identify an individual through fingerprints, he must have been previously fingerprinted and the fingerprint record must be available. Thus, DNA profiling can be especially helpful in identifying decomposed human remains or body parts.

### DNA Profiling

DNA profiling is a process, which begins when a minute sample of genetic material - DNA (deoxyribonucleic acid) - is taken from human tissue and ends when the sample is given a computerized numeric value in the form of a *'bar code'*. Comparing a person's DNA profile with a DNA sample retrieved from the scene of a crime can eliminate innocent people, but can also provide a strong indication of guilt. [4]

DNA test methods have been used in forensic labs around the world for about ten years. The methods have dramatically improved through the years so that successful results can be obtained with many types of tissue specimens, even those that are extremely small, putrid or otherwise contaminated.

DNA scientists have successfully recovered DNA from cigarette butts left at crime scenes, from a bite mark on a victim's body, from hair, from skeletonized or burned human remains, and from evidence stains which had been in a police evidence room for more than 14 years. The test methods are also capable of determining whether a body fluid stain consists of a mixture of fluids from two or more individuals. [5]

**Benefits of DNA profiling**

The experience acquired by countries already using DNA profiling in their crime investigations shows that there are several important advantages to be gained:

- rapid and absolute elimination of innocent suspects;
- rapid identification of offenders with a very high degree of certainty;
- reliability of evidence produced in court;
- better administration of justice;
- increased public confidence in the criminal justice system;
- a deterrent effect on offenders with a concomitant decrease in crime;
- cost-effectiveness in terms of investigation time saved. [6]

Besides that, as previously highlighted, DNA profiling also plays an essential role in matters of Family Law, such as in a dispute of the paternity of a child and also the claim to legitimacy of a child.

**THE PRINCIPLES OF DNA PROFILING**

The principle on which DNA profiling is based is relatively straightforward: a series of molecular biology techniques is used to determine the sizes of discrete DNA fragments that contain hyper variable target sequences. Because molecular biology is a new discipline with technical possibilities that are still expanding, it is hardly surprising that a variety of *'standard'* techniques are used in each step in DNA profiling. The analysis principles, however, remain constant. [7]

They include:

- collecting samples from the scene of a crime and from victims and suspects;
- extracting and purifying DNA from all the samples;
- cutting the DNA into fragments (with a *'restriction enzyme'*);
- visualizing the fragments;
- analyzing the resulting bank patterns by computer. [8]

Obviously, DNA profiling is a complicated process. Each sequential step involved in generating a DNA profile can be carried out in a variety of ways.

Although they are all straightforward, and factors affecting them have been documented, each step is performed differently in different laboratories. Much of this variation is of little account, but in the present unregulated climate there remains a very real potential for generating a variety of anomalies.

**THE ADMISSIBILITY OF DNA PROFILING**

From the above discussion, there is no doubt that, DNA profiling is advantageous to the justice system of any particular country. Problems of identification in cases such as rape, incest, and other sexual or non-sexual crimes can all be resolved by this powerful forensic tool. However, due to its

recent nature, the rule for its admissibility remains as an integral part to the discussion.

Under the Common Law, evidence established from identification by fingerprints, footprints, and genetic profiling (DNA) are considered circumstantial in nature. However, the circumstantial element is acknowledged as cogent evidence. In other words, evidences arising from the inferences made from DNA profiling results are considered as circumstantial inference and dealt with under the head of circumstantial evidence.[9]

Sections 6 to 16 of the Malaysian Evidence Act 1950, are outstanding examples of circumstantial evidence. Sections 45 to 51, which deal with opinion evidence, can also be justified under the head of circumstantial evidence, as the opinions given are essentially inferential in nature.

Expert opinion in regard to matters of fingerprinting and any other matters involving a specialized skill, such as DNA evidences could be admissible under Section 45 of the Evidence Act.

Under the Islamic Law of evidence, evidence derived from DNA profiling techniques would also fall under the subject of circumstantial evidence or also known as *'al-Qarinah'*. This is due to the fact that a judge can only infer the existence of a fact in issue, for instance, identification of the perpetrator, but this would not prove the existence of the fact directly, such as in the case of the results of DNA profiling.

However, this does not mean that DNA profiling is not admissible under the Islamic law of Evidence. In fact the Prophets *(s.a.w.)* and the companions had practiced and used some forms of scientific techniques in their judgment. These techniques are comparable with DNA profiling today.

For instance, 'Ali *r.a.* had used the experimental techniques to prove an alleged semen stain was not a real semen stain in rebutting the claim of a woman that she had been raped. It was reported that during the time when 'Umar al-Khattab *r.a.* was the Caliph, a woman who was frustrated by one Ansar man, had stained a portion of raw egg white on some parts of her dress and on her legs and then went to see the Caliph. The Caliph then asked a few women for their opinion and they seemed to agree on the finding that they were stains of semen on her body and dress. The man was arrested but he denied the allegation. 'Umar then consulted 'Ali. 'Ali asked someone to bring hot boiling water and pitched her stained dress with the hot water and they all realized that it was egg rather than semen.[10]

In another instance, it has been related that a black man complained to 'Umar and said, *" I am black and my wife is black. But my wife gave birth to a red child."* His wife said to 'Umar, *" I swear to Allah that I have not committed zina and this is actually the son of my husband."* 'Umar asked 'Ali about this case. 'Ali said to the man, *"Will you give me the true information if I ask you anything."* He said, *"Yes."* 'Ali asked him, *"Did you have sexual intercourse with your wife during her menses?"* He said, *"Yes."* 'Ali exclaimed with joy and

said, *"When a human sperm mixes with blood, it gives birth to a red child, so don't deny your son. You have done wrong yourself."*[11]

So from the above instances, we can conclude that, there was actually an acknowledgement of scientific application and experiment during the time of the companions. If we may relate these instances to the present time, we may conclude that DNA profiling is admissible under the Islamic Law of evidence.

Denying the use of such a powerful forensic tool in investigations in legal disputes seems to close the door for settlement, especially in this era when offenders are more advanced in their criminal and liability techniques. This type of evidence though circumstantial, could also corroborate other evidence as suggested by some of the jurists, and this also could definitely strengthen any particular case.[12]

The most important condition in relying on *'Qarinah'* such as DNA profiling is that it must at least attain the degree of *'Zan al-Ghalib'* or beyond reasonable doubt. As submitted earlier, the inference that could be derived from the results of DNA profiling indeed, could achieve that level of standard of proof. Furthermore, it could be further strengthened through corroboration.

Under the Syariah Court Evidence (Federal Territories) Act 1997, the provisions covering the issue of *'Qarinah'* range from Sections 20-42. However, some of the provisions do not really relate to the issue of *'Qarinah'* per se, since the provisions are actually adaptation from the Malaysian Evidence Act 1950.

Nevertheless, the presence of the provisions should allow for a wider application of *'Qarinah'* in the Syariah Courts. Section 33, for instance, provides for opinions of experts to be given for matters such as genuineness of handwriting or finger impressions or for matters relating to determination of *'nasab'* and so on. This section would be applicable if an expert is called in for matters relating to DNA profiling or the admissibility of the results of a DNA test.

The problem, in this area, however, is quality control. Certain criticisms in the US of DNA profiling techniques have led defence lawyers in that country to begin to call for greater control over the testing techniques, which are used.[13]

As previously highlighted, in criminal investigations, for instance, by their very nature, the samples, which are sent for analysis will constitute very minute particles of human fluid or tissue, often found in wholly unsympathetic environments. Thus, the substance may have degraded to an unacceptable extent.

Besides that, the investigating officers and prosecutors using DNA profiling should also be aware of several areas where the defence could successfully challenge the evidence. The main points that could be raised are:

- possible contamination of samples which could lead to a different interpretation of results or their invalidation;
- comparison with an inadequate population sample size as the basis for the probability calculations;
- improper sample handling or the unreliability of laboratory procedures.

However, present rule of law governing circumstantial evidence, such as the rule of prudence and caution under the Common Law, could be used to approach the issue of quality control of DNA profiling.

Besides that, procedural law can also be inferred when it comes to the matters of sample handling and laboratory procedures. For instance, in Malaysia, in the case of Teoh Hoe Chye & Anor, [14] the Supreme Court acquitted the two appellants because there was a break in the chain of evidence. The investigating officer to whom the drug exhibits were handed to by one Superintendent Law was unknown.

In another case, Mohd Osman bin Pawan, [15] the customs officer who had counted the exhibits in the presence of the appellant was not called to give evidence but instead, the prosecution made him available to the defence. The Supreme Court set the conviction aside. Mohamed Yusoff SCJ, on behalf of the court, advised:

*"In a serious case, such as [trafficking in drugs], it is pertinent to emphasize again that investigating officers should not treat the custody of exhibits lightly so as to leave a gap in the chain of evidence relating to the exhibits before their production to the court."*

So from the observation of the above cases, if we were to relate them to DNA profiling tests, we can draw a particular rule that custody and movement of an exhibit or tissue samples as in the case of DNA profiling must not be taken for granted. In fact, the custody and movement of the samples should be recorded so as to avoid any confusions and wrong interpretations.

Now there are also efforts towards the standardization and internationalization of DNA profiling worldwide. It is essential that standards be established and rules on accreditation and auditing be applied at both national and international levels. Only if there is one, there will be a possibility of exchanging data internationally.[16]

**CONCLUSION**

We have seen how important DNA profiling has become in today's justice system. The above discussion has shown that DNA profiling is recognized as a form of circumstantial evidence and accepted in most judicial systems. Even under the Islamic Law of evidence, it is considered to be admissible and should not be ignored by the practitioners. However, it is debatable whether or not certain rules regulating its procedure should be maintained so as to avoid any miscarriages of justice in its application.

Nevertheless, ultimately one day, a DNA profile of everyone may be taken at birth and stored in a central database. They could even be obtained prior to birth. Some people may deplore such developments, although DNA profiling does no more than state that the material belongs to a particular individual. It provides no other information. Such developments must remain for the future. For the present, lawyers and others in the Islamic Justice system should be fully aware of the value of testing and of its application, and request for a careful procedure to be applied in the process.

## NOTES

[1] Grubb, Andrew, *Blood testing, AIDS and DNA profiling: Law and Policy*, Jordan and Sons Ltd, Bristol, 1990, p. 155.
[2] Ibid., p. 156
[3] Referred to in http://www.adfs.state.al.us/adfs/articles/dna_profiling.htm
[4] Referred to in http://www.Interpol.int/Public/Forensic/dna/dnafaq.asp
[5] Referred to in http://www.adfs.state.al.us/adfs/articles/dna_profiling.htm
[6] Referred to in http://www.Interpol.int/Public/Forensic/dna/dnafaq.asp
[7] Ibid.
[8] Ibid.
[9] Mohd Akram Shair Mohammad, "Circumstantial Evidence at Common Law; the Evidence Act & under the Shariah Law: A Comparative Appraisal" (thesis), 1994, p. 30.
[10] Referred to by Zulfakar Ramlee in *Al-Qarinah: Its role in Islamic Law of Evidence*, pp.123.
[11] Ibn Qayyim, *Al-Turuq al-Hukmiyyah*, p.43.
[12] Zulfakar Ramlee, *Al-Qarinah: Its role in Islamic Law of Evidence*, pp.132 133
[13] Grubb, Andrew, *Blood testing, AIDS and DNA profiling: Law and Policy*, p.156.
[14] [1987] 1 MLJ 220
[15] [1989] 2 MLJ 110
[16] Referred to in http://www.Interpol.int/Public/Forensic/dna/dnafaq.asp

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