

## DEVELOPMENT AND PROSPECTS

### FORENSIC GENETIC EXAMINATION IN UZBEKISTAN

*В статье рассматриваются некоторые перспективные направления совершенствования судебно генетической экспертизы. Опираясь на успешный опыт некоторых зарубежных стран в сфере борьбы с преступлениями, необходимо создание базы данных геномной информации. В целях предупреждения преступления, для эффективности раскрытия и расследования совершенных преступлений, необходимо принятие закона о геномной регистрации. Использование приведенных рекомендаций обеспечит установление фактических обстоятельств дела, для правильного и своевременного его разрешения.*

**Ключевые слова:** профилактика преступлений, эффективное раскрытие преступлений, экспертиза, исследование ДНК, объекты исследования ДНК, базы данных ДНК, геномная регистрация.

*In the article some perspective directions of perfection of forensic genetic examination are considered. Based on the successful experience of some foreign countries in the field of combating crimes, it is necessary to create a database of genomic information. In order to prevent a crime, for the effectiveness of disclosure and investigation of committed crimes, the adoption of a law on genomic registration is necessary in quality. The use of these recommendations will ensure the establishment of factual circumstances of the case, for its correct and timely resolution.*

**Keywords:** crime prevention, effective detection of crime, expertise, examination of DNA, the objects of DNA examination, DNA databases, registration of genomic.

With the attainment of independence for a short time in the Republic of Uzbekistan, large scale reforms have been implementing. One of the main directions of these reforms is judicial and legal reforms that guarantee the protection of the rights and freedoms of citizens. These reforms have not lost their relevance and sow the day. According to the Decree of the President of the Republic of Uzbekistan of February 7, 2017 No. UP-4947 "On the strategy for further development of the Republic of Uzbekistan", one of the priority areas of activity is the improvement of crime control systems and the prevention of violations [1].

This says that we need to take all sorts of measures to combat crime, as this is one of the main guarantees for ensuring the rights and freedoms of citizens.

But it must also be stressed that ensuring these guarantees is impossible without improving the activities of law enforcement agencies, their constant use of scientific and technological progress [2].

Crime is as old as the human civilization. Likewise also the conviction of the wrongdoer and right. After the enactment of various laws, the criminals are on trial, in the courts of law establishment of a person. The guilty person are non convicted the courts and punished for their acts. The traditional methods have not

very fruitful in attaining the required conviction rate. In recent years, due to the application of knowledge and techniques of forensic science, there has been higher increase in the conviction of various crimes balance with the crimes committed.

Expertise has become an integral part of forensic and criminal procedural activities in the investigation of many crimes.

The scientific examinations of a forensic scientist adjoins a missing link or strengthens the investigation by furnishing an impartial evidence, thus helping the courts to come to a conclusion regarding the criminals and their punishments. The field of study or examination of forensic scientist is very wide, diversible and unpredictable. Generally the duties and responsibilities of forensic scientists are very hazardous, onerous and risk bearing too. Because they are to deal with the material exhibits pertaining to various nature of crimes such as murder, rape, blood, saliva, firearms, ammunitions, explosives, and explosives substances, liquor, hashish, opium, adulterated petrol, kerosene, diesel, etc. and other chemical vehicles involved in accidents, various types of paints. Weapons used in burglary, arson, etc. different types of poisons and poisons and poisonous substances, hair, skeletal remains and other plant or animal remnants. Apart from these, forensic scientists also examine the forged signatures and documents along with the photographic analysis of all materials exhibits. Any material exhibit encountered in the way of investigation needs to be thoroughly examined to prove or disprove its association with a particular crime or criminal. Practically the forensic scientists are to examine the material exhibits connected with various nature of crimes covering the sections of Penal Code and other relevant Acts and the laws of the land. Unlike other research and analytical materials, forensic scientists are required to work with limited quantity and amount of materials generally left behind or carried away by criminals [3].

Speaking about the prospects for establishing an individual, we would like to note that the sad sign of our time was the growth of man-made disasters, terrorist acts, the number of victims of which is estimated at tens and hundreds of deaths. Identifying the identity of such disasters is an officially significant problem

with a pronounced humanitarian burden. The "professionalization" of criminality makes traditional methods of examination, aimed at identification of the individual, ineffective, for example: the compilation of photo-robots, the study of fingerprints, portraits, etc. Therefore, at present, methods based on the study of objects of biological origin are actively being introduced into the examination: morphometric studies of blood groups, DNA studies, and a number of others.

DNA is a unique repository of all information about the characteristics of the organism in one or another coded form. It features special features that can be read after death.

Examination of DNA - a system of scientific methods for the biological identification of individuals (organisms) based on the uniqueness of the DNA nucleotide sequence of each living entity (with the exception of identical twins), a kind of "genetic fingerprint" that remains individual and unchanged throughout the life of the individual (organism). Samples of biological material for a comparative study can serve as any biological tissue of a suspected person or victim containing DNA (samples of nails; samples of liquid blood; dry blood spots; histological specimens; others.) Most often, blood samples are used for this purpose.

According to Pimenov M.G., Chudinova O.S. and Abramova A.B. the most effective, reliable and time-saving method of expert research to identify the identity of the currently recognized method of DNA research [4].

The introduction of unification and automation in DNA research can significantly reduce the cost and time required to produce a result. Within 2-4 hours after the receipt of the samples, it is possible to obtain the results of DNA studies on identification of the individual. In addition to this advantage, the use of a criminal DNA database allows the investigator and the forensic expert to obtain information on cases where DNA profiles have passed.

As a result of such coincidences, the seriality of the criminal act can be established. A well-developed material and technical base for automation of DNA research allows mass analysis of samples with a high degree of reliability [5].

Advantages of introducing DNA databases are also in eliminating the human factor for the study and, as a consequence, improving the quality of the results (improving the external and internal quality control of the laboratory, reducing the number of false positive and false negative results).

Summarizing this problem, we can state with certainty that the creation of a DNA database in Uzbekistan is an extremely timely and urgent task for law enforcement agencies to implement a qualitatively new level of combating crime. In our country one of the main organizational structures that can conduct reliable identification as soon as possible is the Republican Center for Forensic Expertise named after H. Suleymanova [6]. This is due to the availability of modern equipment and trained experienced personnel, as well as the implementation of a rational personnel and organizational policy of management, which relied on the development of new genetic research.

The differentiating possibilities of molecular genetic methods are incomparably wider than the traditional biological ones, since their specificity and selectivity are much higher. These methods have no age limitations and allow a comparative study of biological samples of different tissue origin, since in all cells of the same organism, DNA is normally the same and does not change throughout life [7].

An important point on which to focus attention is that molecular genetic research cannot be considered an auxiliary one [8]. This is a fundamentally new type of forensic medical examination, the purpose of which is not only and not so much the diagnostic determination of genotypic characteristics, but rather the establishment of the genetic identity of the objects of investigation. In this regard, we can conclude that at the present stage, with the emergence and priority development in the forensic biology of the molecular genetic component, the target setting of the forensic medical examination of physical evidence must inevitably change.

Also, in the field of traditional forensic biology, such areas as the development and introduction into practice of highly sensitive and specific

technologies based on the methods of enzyme immunoassay (ELISA) in order to establish the species belonging to biological objects remain promising.

Thus, forensic biology departments should become expert units of a new type, in which the center of gravity will shift specifically to molecular genetic technologies.

In connection with the above tendencies in the development of forensic biology, a very important issue on the agenda is the replication of the production of high-tech molecular genetic examinations. It should be noted that the importance of molecular genetic identification studies is constantly increasing and, accordingly, the demand of law enforcement bodies for this type of research is increasing [9].

Genetics comes to the rescue not only for forensic experts. DNA analysis allows you to establish, for example, paternity, which has become particularly popular in recent years.

However, to date, most of them are low-capacity and limited in the technical and personnel capabilities of the structure of the ECO Ministry of Internal Affairs, really can not provide an increase in the volume of conducted molecular genetic examinations. This problem is very important, because for objective reasons, molecular-genetic laboratories do not have the capacity to introduce new advanced technologies, which will inevitably lead to a decrease in the quality of conducted research.

From all that have been said above, we can conclude that for molecular-genetic laboratories, the necessary premises with appropriate equipment should be provided, they should be staffed and provide the necessary funding. And also, it is necessary to adopt the law "On Genomic Registration" to improve the search system to identify the subject of the crime, to identify the person's identity and unidentified corpses. This law will allow regulating the possibility of obtaining, storing and using genomic information for identification of individual categories of citizens, foreign citizens and stateless persons residing or temporarily staying on the territory of the republic. The practice of adopting this law can be traced in

Russia, Kazakhstan, Iceland and other countries. And the largest data bank in the UK. It is established that for its effective work on the account there must be a minimum of 10 percent of a certain population of the country (convicted, accused, etc.).

### **list of used literature:**

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