Abstract. The article defines the features of the development and implementation of the training programs required for the training and training of employees of the National Bureau of Expertise, who have the authority to appoint expertise and whose responsibilities include the collection of baseline data. The procedural procedure for appointing and conducting judicial examinations by the National Bureau of Expertise is analyzed.

The necessity of improvement of departmental normative-legal acts on activity of divisions of services for carrying out judicial examinations and expert researches was stated. It is determined that the main goals of the National Bureau of Expertise are: development, approbation and implementation of modern scientific and practical methods used in the execution of judicial expertise; organization and implementation of research, scientific-technical and scientific-practical works, aimed at ensuring and improving the quality of expertise, appointed by the authorized bodies; systematization of existing and development of new methods of expert research, their testing and testing, in order to ensure the uniformity of the methodology of forensic
research; training of experts in the field of expertise (forensic science), as well as in accordance with the legislation of the Republic of Armenia, their qualifications.

It is substantiated that the National Expert Bureau is a full member of the European Network of Judicial and Expert Institutions and actively participates in the work of this network. In particular, work is underway to implement the methods and techniques used in international expert practice, which greatly contributes to the progressive improvement of the quality of the expertise and the reliability of the results obtained. In its day-to-day work, the National Bureau of Expertise is constantly focused on the development and improvement of the capabilities of forensic science in order to ensure the process of implementation of international experience in the Republic of Armenia.

**Keywords:** National Bureau of Expertise, forensic science, improving the quality of expertise, the activities of law enforcement agencies in the European Union.

Овсепян Ардум Норайрович,
kandidat medichnih nauk, Direktor Naціонального бюро експертиз Національної академії наук Республіки Вірменія, 0004, Республіка Вірменія, м. Єреван, пр. Адмірала Ісакова, 24, email: a.hoysepyan@nbe.am, tel.: + 374 (10) 77-77-10. ORCID: 0000-0001-5238-5334

Восканян Патвакан Степанович,
kandidat хімічних наук, Заступник директор з наукової роботи Національного бюро експертиз Національної академії наук Республіки Вірменія 0004, Республіка Вірменія, м. Єреван, пр. Адмірала Ісакова, 24, email: p.voskanyan@nbe.am, tel.: + 374 (10) 77-77-10 (+151). ORCID: 0000-0003-3518-7015

**НАЦІОНАЛЬНУМУ БЮРО ЕКСПЕРТИЗ**
**НАЦІОНАЛЬНОЇ АКАДЕМІЇ НАУК**
**РЕСПУБЛІКИ АРМЕНІЇ – 15 РОКІВ**

Анотація. У статті визначено особливості розробки та впровадження навчальних програм, необхідних для навчання та підготовки працівників Національного Бюро Експертиз, що мають повноваження призначати експертизи і в обов’язки яких входить збір вихідних даних. Проаналізовано процесуальний порядок призначення та проведення судових експертиз Національним Бюро Експертиз. Констатовано необхідність удосконалення відомчих нормативно-правових актів щодо діяльності підрозділів служб з проведення судових експертиз та експертних досліджень. Визна-
чено, що основними цілями Національного Бюро Експертиз є: розробка, апробація і впровадження сучасних науково-практичних методів, що застосовуються при здійсненні судових експертиз; організація та здійснення науково-дослідних, науково-технічних і науково-практичних робіт, спрямованих на забезпечення і поліпшення якості експертиз, що призначаються уповноваженими органами; систематизація діючих і розробка нових методик експертних досліджень, їх апробація і тестування, з метою забезпечення єдності методології судово-експертних досліджень; підготовка фахівців в області експертології (криміналістики), а також відповідно до законодавства Республіки Вірменія їх кваліфікаційна першість.

Обґрунтовано, що Національне бюро експертиз є повноправним членом Європейської мережі судово-експертних установ і активно бере участь в роботах даної мережі. Зокрема, ведуться роботи з впровадження методів і методик, що застосовуються в міжнародній експертній практиці, що в значній мірі сприяє поступальному підвищенню якості проведених експертиз та достовірності отриманих результатів. Національне бюро експертиз в своїй повсякденній роботі постійно націлене на розвиток і вдосконалення можливостей судово-експертної науки, з метою забезпечення процесу впровадження міжнародного досвіду в Республіці Вірменія.

Ключові слова: Національне бюро експертиз, судово-експертна наука, поліпшення якості експертиз, діяльність правоохоронних органів країн Європейського Союзу.

Statement of the problem. The relevance of the topic of the article is due to a number of provisions. Firstly, the changes that have occurred in the economic, socio-political and legal spheres and which have entailed qualitative and quantitative changes in crime, expressed, in particular, in the active penetration of professional and organized crime into the most diverse spheres of social life, which is real danger to the progressive development of the country. In turn, these changes have brought to life the emergence of new types of crimes, the use by criminals of sophisticated methods of committing and concealing crimes using the most modern technical means and technologies adapted to achieve criminal goals. The mobility of criminals, their technical equipment and armament increased. The tasks that the investigator has to solve have become more complicated, and the expert tasks have become more complicated.

Analysis of recent studies and publications. The problems of forensic and expert research have been the subject of consideration by a considerable number of scholars, such as T.V. Averyanova, O.V. Batiuk, V.F. Berzin, M.B. Vander, V.A. Volynsky, Z.A. Kovalchuk, Yu.G. Korukhov, V.S. Mitrichev, I.V. Pierog, M.V. Saltevsky, E.B. Simakova-Efremyan, O.P. Udovenko, V.L. Fedorenko and others.
Formulation of the purposes of the article is determining the ratio and features of forensic and expert research by the National Bureau of Expertises.


Over the past 15 years, within the framework of International Narcotics and Law Enforcement (INL) Program of the U.S. Embassy in the Republic of Armenia, as well as within the financial means of the Organization and other programs, enriched with the latest equipment and material-technical base in the field of forensic expertise, recruited with qualified experts in the field, implementing quality management system and gradually improving it, nowadays the Organization is the largest leading forensic organization in the Republic of Armenia, with sufficient scientific and technical potential and material-technical resources in accordance with international standards, methods and procedures for ensuring the implementation of expertise and acquisition of trustworthy results.

The Government of the Republic of Armenia and the U.S. Government have played a significant role in the development and estab-
lishment of the Organization as a leading forensic organization. Within implementation of INL program through extension of active cooperation it is important to emphasize the role and significance of the U.S. Embassy in the Republic of Armenia for donations of various latest valuable equipment and the provided necessary consultations.

Taking into consideration the current development trends in the field of the forensic expertise, not limited to its scientific-technical potential and material and technical resources, the Organization constantly takes all possible measures as prescribed by law to ensure the proper level of development and performance of forensic field in the Republic of Armenia, to promote proper quality and reliability of the results of forensic expertise designated by the criminal prosecutors and justice administration bodies.

The role and importance of National Academy of Sciences of the Republic of Armenia – State Body Authorized by the Government, as well as Collegial Governing Body – the Board, is also significant, especially in promoting scientific assurance of due process of forensic expertise in professional directions of various forensic fields and application of methods in compliance with modern scientific concepts of forensic expertise aimed at ensuring the maintenance and development of the forensic infrastructure.

The management of the current activities of the Organization is carried out by the executive body the Director, while the smooth running of the work is carried out by the Organization’s four deputy directors for expertise, financial and economic affairs, science, security assurance, as well as through heads of departments.

The objectives of the organization are as follows:

- realization of forensic expertise within criminal, civil, administrative procedure codes, conduction of expertise (research) within the framework of civil and legal relations;
- development, testing and implementation of modern scientific-experimental methods, scientific-technical resources in the field of expertise assigned by criminal prosecution and justice administration authorities;
- organization and performance of scientific-research, scientific-technical and scientific-experimental work aimed to ensure and improve expertise assigned by competent authorities;
- education and training of competent authorities responsible for obtaining initial data and authorized to assign expertise;
- systematization of existing research methodologies, development of new methodologies, their testing
and guarantee for applicability with the aim of ensuring the methodical unity of forensic expert research;

- training and improvement of specialists in the field of expertise, as well as confirmation of their qualification as prescribed by the legislation of the Republic of Armenia;

- study of causes and conditions generating crime, development of exact measures aimed to prevent crimes and connected with their implementation preparation of appropriate suggestions for competent authorities and organization and realization of criminological research in different directions.

In terms of instrumentarium of the Organization it should be noted that only over the past 3 years the hardware base of the Organization has been updated to the most modern technological and latest analytical equipment, including:

- Agilent Atomic Absorption Systems «55 AA» and «240Z AA»
- Thermo Scientific Niton XL3t 980 GOLDD+ x-ray fluorescence (XRF) analyzer
- Agilent «GC-7890A» 7890A Gas Chromatograph combined with «MSD-5975C» Gas Chromatograph/Mass Selective Detector (GC/MSD) system
RINNTECH «LINTAB» LTM06-E hardware combined with TSAP-Win software

Leica RTC360 3D high speed scanner manufactured by «Leica Geosystems»

GPS Leica GS07/CS20 System with Satellite Positioning

Currently there are 18 expertise departments in the Organization with laboratories and 9 units carrying out forensic expertise (research, technical testings, analyzes, etc.) within 29 expert types with around 129 expert subtypes and directions.
Year by year research opportunities in the Organization are expanding through the use of advanced equipment and software. Only in the last year, for the first time in the Republic of Armenia the following research opportunities have been implemented and are effectively applied used in the forensic field:

- in the field of nature conservation – modern hardware and software capabilities for studying the time of tree felling and identification of their parts, and other problems
- research opportunities with the latest-generation laser scanning and data processing software applicable in the field of crime scene, construction, ballistics, auto-technical and other expert areas;
- research opportunities via the use of GPS system;
- computer-technical research capabilities for the recovery of digital information from flash drive;
- possibilities of research and other modeling of road accident circumstances using PC CRASH software;
- and others, including research opportunities through the use of new methods and techniques of material science.

A graphical overview of the quantitative indicators of forensic expertise carried out during the recent 5 years by the forensic departments operating in the Organization is presented below:

![Graphical Overview of Forensic Expertise](image)

Over the period from 2015 to the 7th month of 2019 totally 10129 toxicological expertise was performed in the Organization.

It is worth mentioning that the Organization carries out a significant number of complicated and extensive expertise with the simultaneous, sequential use of specific expertise or different research methods in various forensic fields, which comprise around 40% of expertise. The Organization carries out expertise by experts with high professional skills through the use of methods complying modern scientific concepts and verified equipment to ensure scientifically based and reliable results.

In the framework of the project for maintenance and development of in-
For scientific and technical activities, various scientific works are carried out by the Organization with the participation of foreign and local partners. In order to ensure and regulate the proper organization of these activities, the Scientific Council consisting of 18 members operates in the Organization, which is an advisory body coordinating the scientific and scientific-technical activities of the Organization of the given sector. The Scientific Council comprises corresponding members of the National Academy of Sciences of the Republic of Armenia, Doctors and Candidates of Sciences in different professions.

The Scientific Council discusses and approves the main scientific research directions of the Organization, the themes and programs of the scientific and technical personnel, applications for contractual (thematic) funding for scientific and technical activities, the training and qualification programs carried out in the Organization, issues on directions of international scientific cooperation and enhancement of their efficiency, the process of joint research realized with international scientific organizations, as well as guarantees the materials (methodical manuals, guidelines, etc.) for further publication by the scientific personnel.

In the course of the last 5 years the Organization has participated in a number of international research projects, which are as follows:

- “Molecular pathogenesis of mitochondrial OXPHOS diseases” A-2151 funded by the International Science and Technology Center (ISTC), that was completed in November 2017,
- NATO’s “Science for Peace Project. EAP. SFPP 984597, Solid state gas sensors against security and military threats”, that was completed in November 2017.

In 2019 the Organization, in cooperation with Nuclear Safety of the Republic of Kazakhstan the International Scientific and Technical Center, has launched a project entitled «Internal Compliance Program Models for the Nuclear, Chemical, Biological and Radiological Sectors», with a deadline of 2021.

In order to improve scientific-practical work and exchange experience with international partner structures, as well as to ensure international methodologies, technological research, awareness of current equipment capabilities and consider the possibilities and necessities of implementation of modern equipment, expand current capabilities, the Organization also actively participates in online seminars organized by international partner organizations, including The American Society of Crime Laboratory Directors (ASCLD), European Union Agency for Law Enforcement Training (CEPOL), Japanese leading Environmental Control Center Co, National Institute of Toxicology and Forensic Science of Madrid, Bureau of Forensic Medical Expertise of Moscow Region of Ministry of Health of the Russian Federation, Association of Forensic experts of the Russian Federation and other international partner forensic organizations.

Within scientific activities from 2014 to the first half of 2019 the Organization, as part of its scientific research results, has published more than 340 scientific papers, including 8 monographs, 18 manuals and collec-
tions of books, as well as more than 315 articles, reports and theses both in journals published in the Republic of Armenia as well as in prestigious journals included in international ratings lists [2-4].

Analyzing the results of scientific research carried out in the Organization in the course of recent years, forensic achievements, taking into account the existing problems and challenges in the field, on 25th-27th September 2019 «National Bureau of Expertises» SNPO has organized International Scientific-Practical Conference on “Current Problems of Forensic Expert Activities. Contemporary Problems, Trends and Prospects of Development of Criminalistics and Forensic Expertise” dedicated to the 15th anniversary of the establishment of “National Bureau of Expertise” SNPO. The conference is targeted to implement modern opportunities within the international forensic science, ensure continuity of maintenance and development of existing opportunities, and carry out forensic expertise by using the methods relevant to modern scientific concepts to obtain scientifically based reliable results, thus contributing to the development of the judicial system in the Republic of Armenia, increasing the efficiency of the activities of the criminal prosecution and justice administration authorities.

In accordance with its regulation, within the framework of state contracts for the purchase of additional educational training services, the Organization organizes and implements education and training for those competent authorities /preliminary inquiries and investigation, etc./, who has the responsibility to obtain initial data and are authorized to assign expertise, that is also aimed at enhancing the efficiency of the activities carried out by criminal prosecution and justice administration authorities. From 2005 to the first half of 2019 in total 4432 specialists have been trained by the organization and 1545 specialists have been trained only during the period of 2015 to the first half of 2019.

The graphical overview of the attendees’ during 2018 and the first half of 2019 is presented below:
In order to ensure proper implementation and effectiveness of these trainings, the Organization has developed appropriate program-abstracts, list of courses conducted in specialized field. The Organization annually review the educational programs, taking into account the latest scientific achievements in the forensic field, current practical issues and international advanced experience.

In 2018 on the initiative of the educational department of the Organization 80 new program-abstracts in 24 directions were prepared, experts and specialists of relevant expert departments and approved by the Scientific Council.

An effective system for testing and evaluating the results of trainings and providing feedback was also implemented.

Within the framework of the National Academy of Sciences of the Republic of Armenia, the Organization also organizes and realizes qualification or requalification of applicants, as well as training and/or improvement of specialists or experts in the forensic field.

The Qualification Committee of Forensic Experts operates in the system of the National Academy of Sciences of the Republic of Armenia to ensure the achievement of the objective set out in paragraph 3 (e) of Decision №. 1127-N of the Government of the Republic of Armenia of July 22, 2004. The Committee is intended to confirm the professional competence and jurisdiction of the experts possessing special knowledge and skills in science, technology, arts or crafts, for carrying out forensic examination of certain types and/or subtypes.

In 2019 upon the order of the President of NAS RA a new procedure of qualification of forensic experts was established in the system of NAS RA, as well as the procedure operating in the Organization on «Organization of training and/or improvement of applicants (specialists or experts) in expertise field» was improved for the purpose to replenish the expertise field with experts having exclusively highly professional knowledge and practical skills.

On the basis of Decision of the Government of the Republic of Armenia N 638-N of 11th June 2009, Scientific Research Center of Applied problems in Criminology under «National Bureau of Expertises» SNPO of the National Academy of Sciences of the Republic of Armenia was established, which is the only one of its kind in the Republic of Armenia.

The Center carries out the following functions:

• study of the causes and conditions of crime, scientific development of specific crime prevention measures and preparation of relevant recommendations for their introduction to the competent authorities,

• organization and implementation of forensic expertise of draft legal acts by decision authorized law-making bodies;

• criminological research of documents submitted by state and local government bodies, legal entities and physical persons,

• performance of criminological studies of programs, publications prepared by Mass Media,
• organization of surveys, elaborations, analyzes in the fields of statistics, economics, psychology, political science, sociology and other social sciences necessary for carrying out forensic research.

Over the period of its existence, the Center has conducted a number of researches dedicated to the causes and conditions of crime in the Republic of Armenia, trends in the development of crime, identification of criminological and victimological factors of certain types of crime, including the problems of female crime in the Republic of Armenia, identification of criminological and victimological factors of robberies and banditries in the Republic of Armenia, crimes against sexual immunity and sexual freedom in the Republic of Armenia, victimological factors of crime in the Republic of Armenia, the role of Mass Media in shaping public consciousness, issues in the fight against juvenile crime in the Republic of Armenia, etc..

Based on the research carried out by the Center, study guides and numerous scientific articles have been published [5-9].

The Organization is carrying out consistent works aimed at development of the quality management system in accordance with international standards.

In accordance with the legislation the Organization is certified in conformity with the requirements of international standard ISO 9001 «Quality Management Systems. Requirements”. Every year external audit of conformity control is carried out in the organization with recertification every 3 years.

Since 2010, 2 departments of the Organization: food and firearms testing laboratories; have been accredited with the requirements of AST ISO/IEC 17025-2005 standards and have the accreditation certificates.

In 2018 Firearms Testing Laboratory of the Organization was awarded the Certificate of Conformity by the “National Accreditation Body” SNCO of the Ministry of Economic Development and Investments of the RA. The firearms testing laboratory carries out testing set out in the accreditation technical regulations according to decision of the RA government N 605-N of 21th April 2005 on «The approval of the technical regulation of civilian and service weapons and their bullets».

Currently, the Organization is actively working to strengthen international relations, establish new relations and develop them.

Within the framework of international cooperation, the Organization continues to cooperate with the leading forensic and scientific centers of the USA, EU countries, Japan, CIS countries, that makes it possible to study the advanced experience and research opportunities in the field, increase the efficiency of the forensic activity in the Republic of Armenia and to ensure the reliability of the results.

The organization, the only one from the Republic of Armenia, is a full member of European Network of Forensic Science Institutes (ENFSI) and since 2018 has actively been participating in almost all ENFSI Expert Working Groups (FWGs) activities, ensuring the integration of experts into the field of international forensics. In particular, experts
from the relevant departments of the organization are currently involved in 12 Working Groups of ENFSI and that gives opportunity to participate directly in international activities in the professional field, get acquainted with the latest technologies and procedures, databases and establish business relations aimed at participating in various international joint projects, exchanging experience among experts and develop active cooperation in scientific and practical field. Thus, the organization continues to participate in Proficiency Tests (PT) and Collaborative Exercises (CE) organized by the relevant ENFSI Expert Working Groups.

Within the framework of the cooperation, the Organization continues the activities on acquiring and implementing internationally recognized expert methods and techniques that contributes significantly to the continuous improvement of the quality of the expertise and increasing the reliability of the results. The Organization also conducts activities on implementation the standards of Best Practice Manual developed by ENFSI for the purpose of introduce leading European forensic standards and practice in Armenia to improve the research capabilities and procedures of the expert units of the ‘National Bureau of Expertises’ SNPO.

Since 2018, with the support of the Republic of Armenia upon the mutual agreement between Director of the Organization and the European Union Agency for Law Enforcement Training (CEPOL), the experts of the Organization are actively involved in the CEPOL Exchange Programme that consists of two stages. The purpose of the program is to exchange knowledge and good practices, opportunities, methods and technologies obtained over the years, to exchange forensic expertise with best practices, opportunities, methods and technologies gained over the years, as well as to get acquainted with implemented projects, achievements, expert procedures, legislative framework for regulating the field of expertise, peculiarities of normative legal regulations, types and subtypes of expertise, research activities, etc.

Within the framework of international cooperation Memorandums of Understanding were signed with a number of partner organizations Levan Samkharauli National Forensic Bureau of Georgia, State Forensic Examination Committee of the Republic of Belarus, Forensic science centre of the Ministry of Justice of the Republic of Kazakhstan, Kyiv Scientific Research Institute of Forensic Expertise of the Ministry of Justice of the Republic of Ukraine,
Kharkov SRI examinations named Dist. prof. N.S. Bokariusa of the Ministry of Justice of the Republic of Ukraine, General Police Inspectorate of the Ministry of Internal Affairs of the Republic of Moldova and with other leading expert organizations and higher educational institutions.


In particular cooperation agreements were signed between the Romanian National Institute of Forensic Expertise, National Center of Forensic Expertise of the Ministry of Justice Republic of Moldova, Kyiv Scientific Research Institute of Forensic Expertise of the Ministry of Justice of the Republic of Ukraine, Wood Expertise Center of "Healthy Forest" LLC of the Russian Federation, Forensic Expertise Center of the Police Inspectorate of the Ministry of the Interior of the Republic of Moldova and National Bureau of Expertises.

Within the framework of the conference memorandums of cooperation were signed between Central Forensic Laboratory of the Police of the Republic of Poland, Center of Forensic Expertise of the Ministry of Justice of the Republic of Kazakhstan, Research Center for Forensic Examination on Intellectual Property of the Ministry of Justice of Ukraine, Odessa Scientific Research Institute of Forensic Expertise of the Ministry of Justice of the Republic of Ukraine and National Bureau of Expertises.

Currently, the Organization is actively performing activities on establishing, strengthening and developing relations with higher educational institutions, scientific and research institutes and various leading organizations operating in the Republic of Armenia.
Within cooperation with higher educational institutions the Organization continues to cooperate with Yerevan State Medical University after Mkhitar Heratsi, Yerevan State University, Russian – Armenian University, National Polytechnic University of Armenia, National Institute of Health Named After Academician S. Avdalbekyan of Ministry of Health of the Republic of Armenia, Armenian Medical Institute and a number of other leading educational institutions, that makes it possible to engage the best students in forensic activities, to organize and implement professional internship that fosters the recruitment of new and promising young specialists.

The Organization also actively cooperates with such organizations as ′′GNC-ALFA′′ CJSC, Academy of Justice and others in order to implement the latest methods and apply innovative solutions, expand and develop expertise opportunities.

Within the framework of active interstate cooperation, the Organization conducts exchanges of scientific, specialist literature, manuals, scientific works, periodicals and other materials in a number of fields, organizes scientific meetings, seminars, professional consultations and workshops.


**Conclusions and prospects for further research.** Summarizing the information on the activities of the National Forensics Bureau, it should be noted that the Organization aims at providing scientific assurance of the forensic expertise carried out in the Republic of Armenia, implementing innovative opportunities of international forensics, ensuring the maintenance of today opportunities and continuity of the development, carrying out forensic expertise applying methods of modern scientific ideas and getting scientifically based results, which in result provides opportunity to promote the development of forensic sphere in the Republic of Armenia, increase the efficiency of criminal prosecutors and justice administration bodies activities.

**REFERENCES:**


3. National Academy of Sciences of the Republic of Armenia, Report, On major research outcomes for 2017, Issued according to the decision of the Presidium of NAS RA № 1 (1749),
On major research outcomes for 2016, Issued according to the decision of the Presidium of NAS RA № 1 (1734), dated 08 February, Gitutyun NAS RA, 2017,154 p.


