

# Innovative optimization directions of investigative (detective) activity in modern conditions

Viktor Shevchuk \*

\* Doctor of Law, Professor, Yaroslav Mudryi National Law University, Kharkiv, Ukraine, ORCID: <https://orcid.org/0000-0001-8058-3071>, e-mail: [kafkrim@nlu.edu.ua](mailto:kafkrim@nlu.edu.ua)

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DOI: 10.32353/khrife.2.2021.02 UDC 343.98

Submitted: 4 Oct 2021 / Reviewed: 12 Oct 2021 / Approved for Print: 25 Oct 2021 / Available online: 10 Dec 2021

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*This article is devoted to optimization issues of investigative (detective) activity by introducing innovative approaches in solving issues of criminal proceedings and introducing their provisions and recommendations into law enforcement practice. The most important innovative development directions of criminalistics at the present stage directed on optimization of investigative (detective) activity in the conditions of crime transformation, information and epidemiological threats to a society are defined and considered. It is substantiated that issue of optimization of investigative (detective) activities is closely related to the use of innovative approaches, it contributes to investigation effectiveness and is one of the conditions for effectiveness of criminal proceedings and judiciary in general. It is noted that without taking into account innovative technologies and means of solving organizational, legal, scientific and technical issues, actual development and implementation of forensic methods, tools and recommendations to ensure activities of law enforcement agencies will not meet requirements of efficiency and optimality.*

*It is noted that in modern realities one of the most promising areas in the fight against crime is the development, implementation and application of forensic innovations in law enforcement in order to increase its efficiency, effectiveness and optimization. Therefore, creation and introduction of innovative forensic products, their active practical use, currently is considered a priority of criminalistics at the present stage and the urgent need for law enforcement practice. It is substantiated that current trends and prospects for development*

This article is translation of the original Ukrainian content, which source is available at the link: <https://khrife-journal.org/index.php/journal> (translation by Andriy Bublikov). The author acknowledges translation as corresponding to the original.

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*of criminalistics now significantly affect optimization of pre-trial investigation and trial and require expansion of its boundaries and research boundaries, require innovative approaches to solving this issue that necessitate further development of its theoretical and methodological bases and intensification of the practical orientation of research optimization and increase of efficiency activity subjects of criminal proceedings.*

*Three directions of development detection and introduction of forensic innovations are singled out and considered: technical-forensic, tactical-forensic and the direction of providing forensic methods of investigation of separate types of criminal offenses. The main tasks of issues under research and prospects of introduction of its provisions in law enforcement practice are defined, perspective directions of their researches are outlined. Theoretical and methodological principles of development and formation of the concept of innovative principles of forensic support for optimization of investigative (detective) activities in current realities are studied. New scientific approaches to the solution of researched debatable issues are substantiated and perspective directions of researches on specified issues are defined.*

**Keywords:** *efficiency and quality of pre-trial investigation; optimization of investigative (detective) activity; innovations in criminalistics; forensic innovation; innovations in forensic techniques; tactics and methods.*

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## Research Problem Formulation

Innovative development way of criminalistics is caused first of all by the newest scientific developments, introduction of information technologies, high-tech equipment, scientific and technical means of new generation, computerization and automation of procedure of detection and investigation of criminal offenses. Moreover, the

need for forensic science to choose an innovative path of development was caused by a number of objective reasons related to the urgent needs of practice and aimed at finding adequate innovative tools, techniques and methods to counter modern criminal challenges<sup>1</sup>. Therefore, creation and implementation of forensic innovative products has always been and remains nowadays one of priorities of criminalistics<sup>2</sup>.

- 1 Шепітько В. Ю. Проблеми оптимізації науково-технічного забезпечення слідчої діяльності в умовах змагального кримінального провадження. *Результати роботи науковців НДІ вивчення проблем злочинності ім. акад. В. В. Сташица НАПрН України за фундаментальними темами у 2018 р.* : мат-ли наук. конф. (Харків, 26.03.2019). Харків, 2019. С. 144–147 ; Ackermann V. R., Kurapka V. E., Malewski H., Shepitko V. Schaffung eines einheitlichen europaischen Krimiinalistischen Raumes: Die Tatigkeit offentlicher Organisationen zur Starkung der internationalen Beziehungen. *Kriminalistik*. 2020. Iss. 6. P. 355–363.
- 2 Журавель В. А. Загальна теорія криміналістики: генеза та сучасний стан : монографія. Харків, 2021. С. 6–7 ; Шепітько В. Ю. Завдання криміналістики в умовах глобальних загроз та еволюційних перетворень злочинності. *Криміналістика и судебная экспертиза: наука, обучение, практика* : мат-ли наук.-практ. конф. Міжнар. конгр. криміналіст. (13–15.09.2018) ; у 2 т. Т. 1. Одеса, 2018. С. 14–26.

Integrating latest advances in science and technology, criminalistics develops (creates) for law enforcement agencies innovative tools, techniques and methods to combat modern crime which use is aimed at optimizing activities of criminal proceedings and increase efficiency of their work. In such modern realities, forensic research should be aimed at intensifying development of prognostic and applied functions of criminalistics that should provide criminal proceedings with forensic recommendations for effective use of these innovative technologies in pre-trial investigation and trial of criminal proceedings<sup>3</sup> As can be seen, integrated approach can fully ensure planning and innovation implementation involving creation, implementation, dissemination and application of innovations<sup>4</sup> aimed at optimizing investigative (detective) activities.

Forensic innovation, as a new scientific field in criminalistics has applied nature and serves as a scientific foundation for the creation (formation), implementation and active use of innovative forensic tools of criminal proceedings, trials, various types of proceedings and legal practice (investigative, judicial, expert,

prosecutorial, lawyer, notary, etc.), in order for their optimization, increasing efficiency and effectiveness. In this regard, among the promising research areas in criminalistics, issues of developing innovative approaches in optimization of investigative (detective) activities, as one of the most promising areas of modern research in criminalistics become especially relevant and important.

### Analysis of Essential Researches and Publications

Scientific basis of the research was the work of forensic scientists devoted to exploration of issues of innovative optimization of investigative (detective) activities and innovative areas of forensic science in this area of knowledge and solving some of its debatable issues related to the issues of improving efficiency and optimizing the activities of pre-trial investigation bodies: H. K. Avdieieva, P. V. Bernaz, M. I. Dolzhenko, M. V. Zhyzhyna, V. A. Zhuravel, V. O. Konovalova, I. I. Kohutych, M. V. Saltevskyi, D. K. Taranik, N. B. Nechaiev, Yu. V. Chornous, V. Yu. Shepitko and others<sup>5</sup>.

At the same time, in modern conditions in research on this issue there are

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- 3 Шевчук В. М. Інноваційні засади криміналістичного забезпечення правозастосовної діяльності: проблеми формування концепції. *Теорія та практика судової експертизи і криміналістики* : зб. наук. пр. 2021. Вип. 23. С. 7–23. DOI: 10.32353/khrife.1.2021.01 (date accessed: 03.10.2021).
  - 4 Волынский А. Ф. Еще раз о криминалистическом обеспечении и инновациях (письмо ответственному редактору по поводу «Заметок на полях»). *Вестник криминалистики*. 2012. Вып. 1 (41). С. 25–27.
  - 5 Берназ П. В. Інновації – основа криміналістичного забезпечення діяльності з розслідування злочинів. *Південноукраїнський правничий часопис*. 2015. № 4. С. 50 ; Долженко Н. И., Таряник Д. К. Инновации в криминалистическом обеспечении раскрытия и расследования преступлений: некоторые проблемы внедрения и пути их решения. *Научный альманах*. 2017. № 5-1 (31). С. 274 ; Жижина М. В. Инновации в криминалистике и судебной экспертизе. *Судебная экспертиза: российский и международный опыт* : сб. междунар. науч.-практ. конф. (Волгоград, 23–24.05.2012). Волгоград, 2012. С. 22–27 ; Нечаева Н. Б. Инновации в криминалистике. *Ленинградский юридический журнал*. 2013. № 2 (32). С. 158 ; Чорноус Ю. М. Криміналістичне забезпечення розслідування злочинів : монографія. Вінниця, 2017. С. 11–15 та ін.

a number of debatable issues regarding the conceptual framework for optimizing investigative activities by introducing innovative approaches to solving issues of criminal proceedings and implementing their provisions and recommendations in law enforcement practice. Analysis of the forensic literature indicates that only in some research papers we find certain approaches to research on this issue and addressing certain issues of ways to optimize activities of pre-trial investigation and the use of new methods to improve effectiveness of investigative (detective) activities (D. V. Biriukov, O. Yu. Bululukov, N. V. Hlynska, I. V. Hloviuk, I. O. Krytska, V. V. Navrotska, O. H. Shylo and others) <sup>6</sup>. Therefore, in our opinion, special and in-depth study, analysis and further exploration need issues of development and formation of innovative support for optimization of investigative (detective) activities and innovative areas of forensic science in this field of knowledge that in modern realities require further basic research.

### Article Purpose

This article purpose is research on innovative principles of forensic optimization of investigative (detective) activities in modern conditions and issues

of implementing their provisions and recommendations in the practice of pre-trial investigation. The aim is to formulate the conceptual foundations of forensic optimization of investigator (detective) through the widespread introduction of modern innovative approaches, outline and consider the most promising areas of forensic research on this issue.

### Main Content Presentation

In modern forensic doctrine, the issue of optimization of investigative (detective) activities is closely related to the use of innovative approaches, it contributes to investigation effectiveness and is one of the conditions for effectiveness of criminal proceedings and legal proceedings in general. It is important to note that without innovative technologies and tools to solve legal, organizational and scientific and technical issues of development and implementation of forensic methods, tools and recommendations to ensure the activities of law enforcement agencies will not meet requirements of efficiency and optimality<sup>7</sup>. It is not for nothing that one of the main essential features of forensic innovations in the special literature is the focus of innovative tools on effective solution of forensic problems, ensuring optimization, improving the quality and

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- 6 Бірюков Д. В. Оптимізація розслідування злочинів з використанням потенціалу комп'ютерних технологій. *Південноукраїнський правничий часопис*. 2016. № 2. С. 140–143; Булукув О. Ю. Оптимізація тактичних рішень – умова ефективності слідчої діяльності. *Питання боротьби зі злочинністю* : зб. наук. пр. 2016. Вип. 32. С. 107–124; Серкевич І., Устрицька Н., Навроцька В. та ін. Сучасні тенденції розвитку кримінальної юстиції в Україні : кол. монограф. ; за ред.: І. Гловук, Н. Лашук. Львів, 2021. 388 с. ; Крицька І. О. Ефективне досудове розслідування кримінальних правопорушень у сфері господарської діяльності. *Протидія злочинності і корупції: міжнародні стандарти та досвід України* : зб. тез міжнар. наук.-практ. конф. (Харків, 22.09.2021). Харків, 2021. С. 173–177 ; Шило О., Глинська Н. Якість кримінального процесуального законодавства України в аспекті відповідності стандартам попередження вторинної віктимізації потерпілого. *Ibid.* С. 297–303 та ін.
- 7 Волынский А. Ф. Инновационная сущность криминалистического обеспечения расследования преступлений. *Вестник криминалистики*. 2011. Вып. 3 (39). С. 26–29.

effectiveness of law enforcement practice and further development of criminalistics.

Important factor in effectiveness of investigative (detective) activities is its optimality manifested in finding and using productive ways in solving the issues of pre-trial investigation and improving recommendations for making necessary tactical and procedural decisions. At the same time, optimization of tactical decisions in investigation of criminal offenses is an integral part of optimality of investigative (detective) activities. The issue of improving the latter, its optimization has always been the object of attention of scientists and practitioners who carry out theoretical research in this field of knowledge and law enforcement agencies that are responsible for detection and investigation of criminal offenses<sup>8</sup>.

As can be seen, in current conditions of crime transformation and global threats to society, an important direction in combating criminal manifestations is creation (development) and use of innovative forensic products in law enforcement in order to increase its efficiency and effectiveness. Therefore, creation and implementation of forensic innovations and their active practical use is now a priority of criminalistics and an urgent practical need. Thus, formation and development of forensic knowledge is a kind of response to the emergence of new means, forms and mechanisms of criminal activity under influence of modern trends in science, technology and society<sup>9</sup>.

It is seen that currently criminalistics faces very important tasks which solution should be aimed at research and consideration of modern innovative achievements of science and technology, impact of scientific and technological

progress on formation of modern forensic knowledge which should be practical and provide effective forensic recommendations, investigative, detective and judicial practice in modern conditions.

In modern criminalistics, there are a number of debatable issues related to researches on forensic innovations and issues of their implementation in law enforcement practice. Thus, a separate in-depth study, critical analysis and further research developments require issues: research on theoretical foundations of innovation in forensics, determining their place and role in the system of forensic knowledge; development of the concept and features of forensic innovations; identification and research of types of innovations in criminalistics, their characteristics; issues and directions of creation of innovative forensic products and technologies; research and analysis of introduction of innovations in the practical activities of combating crime; efficiency and practical value of the proposed innovations in criminalistics; identification and research of perspective directions of innovative development of criminalistics including application of innovative means and technologies, development of their theoretical and methodological bases and issues of introduction and use of criminological innovations in practice.

In our opinion, essential features of forensic innovation include the following: 1) novelty of developed, proposed and implemented in practice products, technologies, services, solutions is that they are associated with creation and emergence of new properties which significantly improve its parameters and characteristics, so they are newly created, or newly used, or improved; 2) developed,

8 Булулуков О. Ю. *Op. cit.*

9 Шевчук В. М. *Криміналістика: традиції, новачі, перспективи : добірка наук. пр. ; упоряд. Н. А. Чмутова. Харків, 2020. С. 18—65.*

proposed and put into practice the latest technical, tactical, methodological and forensic tools (innovative forensic tools) are in demand and are used constantly in practice, they are implemented in the form of new products, technologies, services, decisions; 3) developed, proposed and put into practice the latest technical, tactical, methodological and forensic tools are the result of research or development, demanded and used in practice, forms of implementation (application) of such innovative forensic tools are new products (products), technologies, services, solutions; 4) application of such innovations is carried out by special entities (investigators, judges, etc.) ensuring qualification and efficiency of use of developed and implemented in practice innovative tools; 5) focus of innovative tools on the effective solution of forensic issues ensuring optimization, improving quality and effectiveness of law enforcement practice and further innovative development of criminalistics.

Thus, *forensic innovation* is the latest technical, tactical, methodological and forensic tools developed, implemented and applied in practice, that are the result of research or development that are embodied in the form of a new product (product), technology, service, solutions used by qualified special entities in practice and aimed at effective solution of forensic problems and ensuring optimization, improving quality and effectiveness of law enforcement practice and further innovative development of forensic science.

In criminalistics, there are traditionally three areas for identifying the development and implementation of innovations technical forensics, tactical forensics and

the direction of providing methods for investigating certain types of criminal offenses<sup>10</sup>. In our opinion, technical and forensic direction has received the most active development in terms of innovation, but there are many debatable issues in the study of this issue that need to be studied and resolved. In particular, the study and analysis of forensic sources, forensic practice make it possible to identify a number of significant problems in the use of tools and methods of forensic techniques by practitioners that negatively affects effectiveness of some proposed innovations that remain unclaimed in practice. As a rule, in most cases the reason for not introducing innovations is insufficient level of forensic support of such activities which is often associated with a low level of training, in many cases they lack the necessary knowledge, skills and practical skills to work with the latest scientific technical means, methods, innovative technologies in the detection and investigation of criminal offenses.

In this regard, rightly noted A. V. Ishchenko, that in this case it is necessary to increase contribution of the practical direction of criminalistics, implementation of its practical and applied function and can be associated with creation of appropriate scientific and methodological support for the use of tools and methods of forensic techniques, their implementation in practice<sup>11</sup>. In addition, at the present stage of Ukrainian development, adaptation of Ukrainian criminal procedure legislation to European standards is becoming especially important. One of such areas is introduction of the latest forensic methods, means of detection, fixation, removal of traces. It is useful for domestic scientists

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10 Берназ П. В. Оп. cit.

11 Шенко А. В. Методологічні проблеми криміналістичних наукових досліджень : монографія ; за ред. І. П. Красюка. Київ, 2003. 359 с.

and law enforcement officers to follow promising, innovative developments in forensic technique in the world leading countries<sup>12</sup>.

In current realities in the field of forensic technique there is a tendency of active search for development and implementation of innovative forensic products aimed at optimizing investigation of criminal offenses and litigation. As noted in the forensic literature, such innovative products include new developed or adapted to the needs of investigative (judicial) technical forensic tools, modern information technology, electronic knowledge bases, methods of recording, analysis and evaluation of evidence, etc.<sup>13</sup>.

Among the innovative methods and tools, according to V. D. Bernaz, importance is given to biometrics, i.e. those that allow you to measure physical and behavioral characteristics of a person in order to identify or solve diagnostic problems. Original attempts to find new ways to solve the issues of personal identification are the use of tools, in particular: identification of a person by his external signs through video systems using thermal imaging equipment; by voice, by articulation during the pronunciation of individual sounds, words. Capabilities of the polygraph are also not fully used in determining the suitability for investigative and detective activities and the presence of professional deformation; in the diagnosis of the veracity of evidence;

in identifying involvement in criminal offenses, etc.<sup>14</sup>.

In this regard, the use of nanotechnology for forensic purposes, in particular, the development of innovative methods and technologies that expand the possibilities of human identification in genotypic examination are of scientific and practical interest. Development of a biochip, that allows to establish identity of the subject on a tiny trace of DNA with a probability of 99.6%, allows to identify individuals by detecting at the scene crumpled napkin or cigarette butt with a small amount of saliva was impossible before<sup>15</sup>.

Moreover, the development of forensic technology involves the development of information and reference systems such as Automated Workplaces (AWP). Examples of such workstations are: «Інсайт» investigator workstation, workstation of forensic experts of various forensic expert specialization: (trace evidence, ballistics, economics, polygraph examining, etc.). In this context, it is relevant in the field of forensic technology to study and remove ideal traces in human memory using forensic techniques. Innovative tools and technologies are: the use of computer polygraph<sup>16</sup>, facial composite, digital photography, audio and video recording, spectrograph, unmanned aerial vehicles, surveillance and video surveillance systems, etc. Therefore, it is quite reasonable, in our opinion, to say that

12 Степанюк Р. Л., Лапта С. П. Новітні зарубіжні розробки та перспективні дослідження у галузі техніко-криміналістичного забезпечення протидії злочинності. *Право і безпека*. 2017. Вип. 2 (65). С. 96–101.

13 Шепітько В. Ю., Журавель В. А., Авдеева Г. К. Інновації в криміналістиці та їх впровадження в діяльність органів досудового слідства. *Питання боротьби зі злочинністю*. 2011. Вип. 21. С. 40.

14 Берназ В. Д. Інтеграція досягнень сучасної науки в слідчу діяльність. *Південноукраїнський правничий часопис*. 2008. Вип. 4. С. 188.

15 Жижина М. В. Инновационное развитие криминалистики на современном этапе. *Lex Russica*. 2012. № 1. С. 121.

16 Когутич І. І. Тенденції пристосування криміналістичних знань у здійсненні судочинства. *Вісник Львівського університету. Серія юридична*. 2013. Вип. 57. С. 338

promising research in this area is the use to diagnose the information state of individual technical means: computer polygraph<sup>17</sup>.

Recently, along with traditional means of detection, fixation, seizure, as well as research on material traces and the situation in general at the scene and innovative and very promising area is the active use of modern *three-dimensional digital technologies and artificial intelligence* criminal patterns or its individual episodes (details) using 3D models. Practice demonstrates that law enforcement officers are increasingly faced with the need to investigate and record material objects located in large areas: consequences of criminal explosions, fires, accidents and catastrophes on various modes of transport, anthropogenic hazards.

It is seen that the use of laser scanning of terrain and objects producing 3D model allows to increase informativeness of the data collected at the scene, provides a clear and convenient visualization in three dimensions that provides exemplifying<sup>18</sup>. It is possible that in the near future forensic experts will face the need to develop forensic methods related to diagnostic and identification research of 3D printers and made with their help real 3D models<sup>19</sup>.

Among the promising areas that have important forensic significance in the investigation of criminal offenses, we can highlight the use of *BIG DATA* technology. In

technical terms, big data is a variety of tools, approaches and methods for processing both structured and unstructured data in order to use them in solving specific tasks and achieving certain goals. Criminalistics can also use various means of obtaining and processing information using such technologies. In practice, this method is used while investigative (detective) actions and covert investigative (detective) actions, in the methodology of investigation of certain types of crimes, including forensic techniques. At the same time, the technologies of network analysis and tactical profiling allow to successfully detect and investigate criminal offenses<sup>20</sup>.

In this regard, I. I. Kohutych correctly notes that crime situation in Ukraine constantly requires and determines qualitatively new, intensive scientific research in all *applied* aspects of forensic science. In the field of forensic technique is creation, development and implementation of new means of identifying the tracks found in crime investigation, from creation of "odor banks" to *DNA fingerprinting*, new and rational methods of forensic research on forensic objects that were not common before; improvised explosive devices; voices of persons recorded on audio and video cassettes, etc. The problem of recognizing artificial papillary patterns has already arisen in criminology. Research in the field of using technical means such as

17 Білоус В. В. Напрями розвитку юридичних наук у царині впровадження безпілотних технологій. *The development of legal sciences: problems and solutions* : Internat. scient.-pract. conf. Conf. Proc., April 27–28. Kaunas, 2018. С. 109–112.

18 Павлюк Н. В. Фіксація доказової інформації за допомогою систем 3D-візуалізації. *Результати роботи науковців НДІ вивчення проблем злочинності ім. акад. В. В. Сташиса НАПрН України за фундаментальними темами у 2018 р.* : мат-ли наук. конф. (Харків, 26.03.2019). Харків, 2019. С. 158–160.

19 Семенов В. В. Перспективні технічні засоби та методи в розслідуванні злочинів. *Сучасні тенденції розвитку криміналістики та кримінального процесу* : тези доп. міжнар. наук.-практ. конф. до 100-річ. від дня народж. проф. М. В. Салтєвського (Харків, 08.11.2017 р.). Харків, 2017. С. 192–194.

20 Саморока В. А., Прохорова Е. А. Перспективы использования «BIG DATA» при раскрытии и расследовании преступлений. *Академическая мысль*. 2019. № 1 (6). С. 74.

a polygraph to diagnose the information state of the individual is promising. Theoretical and practical developments of various information retrieval systems (IRS) based on computer technology are relevant. Ideally, they should form a single state network, and some of them - to have access to similar IRSs of other states and interstate forensic institutions (including Interpol and Europol) <sup>21</sup>.

At the present stage, to optimize the investigation, it is proposed to use the latest scientific and technical means and technologies: audio, video control, surveillance systems, digital photography and video recording, electronic controllers, unmanned aerial vehicles (UAVs): quadcopters and forensic aerial photography <sup>22</sup>. Otherwise, it is noted that to increase efficiency of this activity area it is necessary to make greater use of geodetic satellite systems and aerial photography, carried out using unmanned aerial vehicles <sup>23</sup>. It is necessary to intensify work on the use of artificial intelligence to solve practical issues in the fight against crime.

In our opinion, a promising area in criminalistics is the use of innovative tools and technologies of forensic technology in various areas of law enforcement, expanding the application of forensic knowledge in various types of legal practice that in current reality is quite relevant and requires further research. We are talking about possibility of using forensic techniques in legal proceedings, in criminal

and civil proceedings, administrative proceedings, in prosecutor, lawyer and notary ones and others <sup>24</sup> It is seen this indicates manifestation of another important trend in the development of modern criminalistics: *application expansion of forensic knowledge* in the field of combating crime to law enforcement and other activities.

In view of the above, we can conclude that improving efficiency and quality of investigation is inextricably linked with the active introduction into investigative practice of modern advances in science and technology. Criminalistics integrating the latest advances in science and technology, creates for law enforcement agencies appropriate to modern threats innovative tools, techniques and methods of combating crime <sup>25</sup>. Scientific and technological progress directly affects the acceleration of the pace of development of forensic science and its individual components. This fully applies to forensic technique, as a system of forensic knowledge and a variety of practical activities. Therefore, the successful and skillful use of innovative tools of forensic technique ensures completeness, accuracy, efficiency and effectiveness of investigation and trial, helps to optimize this activity and solve the issues of criminal proceedings.

In our opinion, development and application of tactical and forensic recommendations taking into account modern conditions should also become

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21 Когутич І. І. Ор. cit.

22 Шепітько В. Ю. Проблеми оптимізації науково-технічного забезпечення ... .

23 Білоус В. В. Класифікація безпілотних літальних апаратів та її значення для криміналістичної практики. *Теорія та практика судової експертизи і криміналістики* : зб. наук. пр. 2016. Вип. 16. С. 47–57.

24 Шепітько В. Ю. Криміналістика XXI века: предмет познания, задачи и тенденции в новых условиях. *Современное состояние и развитие криминалистики* : сб. науч. тр. ; под ред. Н. П. Яблокова и В. Ю. Шепітько. Харьков, 2012. С. 43.

25 Жижина М. В. Инновационный путь развития криминалистики на современном этапе. *Вестник криминалистики*. 2012. Вып. 1 (41). С. 20.

promising areas for optimizing investigative activities and improving use of forensic tactics. It is seen that such research can be related to development of specific tactics of individual investigative (detective) and covert investigative (detective) actions in possible conditions of social isolation and quarantine restrictions of citizens. This situation necessitates the development of new tactics, review of the possibilities of tactical combinations and tactical operations, algorithms of investigative (detective) actions, taking into account certain specifics of their implementation. Important areas of such research in forensic tactics are the problems of developing tactics of actions and activities in which participants (suspects, witnesses, victims, etc.) were persons in medical masks, special protective suits etc.

Innovative directions of development of forensic tactics and optimization of investigative activity should include issues of interaction of investigator (detective) and prosecutor with other participants in criminal proceedings, which requires intensification of forensic research on certain issues of professional defense tactics, prosecutor and judge (court). In this regard, V. Yu. Shepitko rightly notes that the Constitution of Ukraine as the principles of justice declares equality of all trial participants under the law and for trial, adversarial nature of the parties and the freedom to present their evidence to the court. Taking into account this constitutional provision, the tactics of conducting such judicial actions as interrogation, simultaneous interrogation of two or more already interrogated participants in criminal proceedings

(ace-to-face interrogation), presentation for identification, on-site inspection, etc. are qualitatively changing. Therefore it is possible to speak about expediency of introduction of provisions of “competitive” criminalistics and necessity of development of trial (judge) tactics, tactics of public prosecution and tactics of professional protection<sup>26</sup>.

In addition, in connection with the reform of the judiciary and law enforcement agencies, there are also new entities that use tactical and forensic knowledge: the parties to criminal proceedings, procedural manager, the head of the pre-trial investigation body, examining magistrate, etc. Moreover, such processes are accompanied by the creation of new institutions with the emergence of new specific officials, in particular, detectives (persons who combine investigative and operational activities). Legal bases for creation of search services: private detective agencies (private detectives) are also developed<sup>27</sup>.

In view of the above, in our opinion, in the system of forensic tactics, along with investigative tactics, it is expedient to single out judicial tactics (or judicial tactics) as its important separate branch which studies regularities of adversarial tactics and investigates prosecution tactics and professional defense tactics court (judges), as well as the tactics of conducting certain judicial actions, in particular, the tactics of judicial review, tactics of cross-examination, tactics of simultaneous interrogation, tactics of presentation for identification, etc. An innovative area of research on issues of judicial tactics is the development and implementation of

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26 Шепітько В. Ю., Коновалова В. О., Журавель В. А., Шевчук В. М. та ін. Криміналістика : підручник : у 2 т. Т. 1 ; за ред. В. Ю. Шепітька. Харків, 2019. С. 217.

27 Шепітько В. Ю. Цільове призначення криміналістичних знань і прагнення європейських стандартів у протидії злочинності. *Теорія та практика судової експертизи і криміналістики* : зб. наук. пр. 2017. Вип. 17. С. 8, 9.

tactical operations in legal proceedings. Therefore, in the structure of judicial tactics it is also necessary to consider the tactical organization foundations and conducting tactical and forensic complexes (tactical combinations and tactical operations) as effective and efficient means of solving tactical tasks in court. It seems that today the problems of judicial tactics are a very promising area of research in forensic science but in the theoretical and methodological aspect still remain insufficiently studied and necessitate further scientific development of this issue.

In our opinion, in addition to investigative and judicial tactics, other separate sub-branches, such as tactics of public prosecution, tactics of professional defense, tactics of search activity, tactics of criminal activity, are also innovative directions of research on forensic tactics in current realities. It is seen that the need for further research requires issues of individual scientific theories (doctrine of forensic version, theory of tactical operations, theory of investigative situation, theory of tactical decision-making, the theory of systematization of tactics, etc.), covert investigative and judicial actions<sup>28</sup>. At the same time, research on the tactics of organizing and conducting tactical and forensic complexes (tactical combinations and tactical operations) in investigative, detective, prosecutorial and judicial activities is of particular importance<sup>29</sup>.

Thus, current trends and prospects for development of forensic tactics currently

significantly affect optimization of pre-trial investigation and trial and require expanding its boundaries and boundaries of research, require innovative approaches to addressing these issues which necessitate further development of its theoretical and methodological foundations and intensification of the practical orientation of optimization research and increase of efficiency of activity of subjects of criminal proceedings.

Innovative directions of research in forensic methodology, which are aimed at optimizing investigative (detective) activities, are closely related to changes in criminal and criminal procedure legislation, as such changes require improvement of existing methods of criminal investigation and development of new forensic methods of investigation. Innovative directions of scientific research in forensic methodology are closely related to changes in criminal and criminal procedure legislation, as such changes require improvement of existing methods of crime investigation and development of new ones (V. A. Zhuravel, 2013; V. O. Konovalova, 2016; V. V. Tishchenko, 2007; B. V. Shchur, 2010 and others). Innovations in this field of criminalistics are aimed at conducting research on methods of investigating new types of criminal offenses, tactical operations, algorithms of investigative (detective), checking typical investigative versions, developing forensic characteristics of criminal offenses, etc.<sup>30</sup> The widespread use of computer information technology contributes to the further development

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28 Шепітько В. Ю. Предмет криміналістичної тактики: історія формування, зміст та тенденції. *Теорія та практика судової експертизи і криміналістики* : зб. наук. пр. 2019. Вип. 19. С. 8–20. DOI: 10.32353/khrife.1.2019.01 (date accessed: 03.10.2021).

29 Коновалова В. Е. Новые тенденции развития криминалистики. *Теорія та практика судової експертизи і криміналістики* : зб. наук. пр. 2006. Вип. 6. С. 11–16.

30 Журавель В. А. Криміналістичні методики: сучасні наукові концепції : монографія. Харків, 2012. С. 138–155.

of procedure algorithmization of pre-trial investigation and hearing.

Thus, the modern realities of Ukraine require forensics to improve, develop and implement in practice methods of investigation: criminal offenses committed in emergency situations; criminal offenses against the foundations of national security of Ukraine in the field of health care; organized criminal activity; human trafficking; drug crime; cybercrime; illicit trafficking in weapons; transnational criminal activity; criminal offenses related to the movement of anti-epidemic goods across the customs border of Ukraine; smuggling of medical masks and other anti-epidemic goods, etc. In addition, the current needs of law enforcement practice necessitate the development and implementation of methods of professional protection against criminal prosecution and methods of maintaining public prosecution for various types of criminal offenses. The widespread use of computer information technology contributes to the further development of algorithms for the investigation of criminal offenses.

Modern promising areas of formation and implementation of effective forensic methods of investigation are reflected in the creation of so-called “micromethods” forming schemes of the main investigation methods of certain types of criminal offenses. Conducting separate monographic studies related to “micromethods” has demonstrated their scientific novelty and significance, as well as practical usefulness. Development of

problems of methods of investigation of murders committed by organized criminal groups; methods of investigating murders concealed by staging; a number of publications devoted to the investigation of murders without a corpse, the investigation of murders with the dismemberment of a corpse, etc. demonstrated scientific novelty and practical usefulness of such research<sup>31</sup>.

Innovations in forensic methods cover its various aspects and are determined by changes in the political, economic and other spheres of the state. The main innovations are to change the traditional views on the structure of the methodology of investigation and focus on the selection and formulation of new areas of detection and investigation of criminal offenses of a certain type. Another area of innovation is the adaptation of new “micromethods” to existing methods of investigation of certain types of criminal offenses which allows the use of tried and tested recommendations by interpreting them in the created separate methods of investigation. Important in the development of forensic methodology is introduction of modern forensic knowledge in investigative and forensic expert practice<sup>32</sup>.

Considering the relevance of modern forensic research on forensic methods, B. V. Shchur rightly notes that current scientific research on these issues should be carried out in several areas: 1) further formation of the methodological foundations of forensic methodology, its general provisions (conceptual approaches,

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31 Коновалова В.О., Мишков Я.Є. Інновації в методиці розслідування злочинів. *Право та інновації*. 2016. № 2. С. 34-40.

32 Konovalova V. O., Shevchuk V. M. Prospective directions of research of innovations of separate criminalistic methodics. *Scientific practice: modern and classical research methods* :\_Collection of scientific papers «ΛΟΓΟΣ» with Proceedings of the I International Scientific and Practical Conference (Vol. 1), Boston, February 26, 2021. Boston-Vinnytsia: Primedia eLaunch & European Scientific Platform, 2021. Pp. 81–85. DOI: 10.36074/logos-26.02.2021.v1.23 (date accessed: 03.10.2021).

principles, functions, structure, etc.); 2) creation of separate forensic methods (concerning categories, types, subtypes of crimes, etc.); 3) development of forensic methods for various activities (investigative, judicial, prosecutorial, legal ones); 4) offering certain means of forensic methodology; methodological recommendations, methods, techniques, technologies, etc.<sup>33</sup>. Therefore, as we see, methodological and forensic support of the investigation process, prevention of criminal offenses, trial has always been and is one of the priority areas of criminology. Methodological and forensic recommendations developed by criminalistics are an important tool for investigators, detectives, judges, and become a kind of algorithm of actions in typical investigative and judicial situations.

In order to optimize the investigative (detective) activity, it is seen that the formation of certain forensic techniques should be designed for a specific addressee: investigator, detective. In modern criminalistics, there are proposals on the need to develop separate forensic methods for prosecutor or trial. Therefore, it is necessary to move from a descriptive approach to certain forensic methods to a certain standardization and unification. In this sense, the proposals for development of the Register of individual forensic methods, proposing the order of its formation and operation are quite important<sup>34</sup>.

In order to improve investigative activity, investigation automation such criminal

offenses becomes especially important, first of all, it is connected with development and use of information retrieval systems. Currently, there is an urgent need to create automated workstations of investigators and centralized information retrieval systems with registers of the Tax Administration, Pension Fund, GAI, Registration Chamber, seized movable and immovable property, telephone database of certain regions, identification of EDPNOU and other numbers and codes<sup>35</sup>. Among them, an important place is occupied by the "Automated Investigator Workplace".

The need to optimize the investigation has stimulated scholars and practitioners to address the problem of formalizing this type of criminal procedure. At present, there is an objective possibility to implement the ideas of algorithmization and computer programming which necessitates intensification of joint research by forensic scientists and programmers to formalize the investigation that could result in the development of an electronic reference and consultation guide for investigators. In particular, it is possible to develop and implement special computer programs that would allow mathematical calculations of probable places of residence of criminals and possible places where they commit new crimes. Recourse to these sources would be a necessary means of prompt receipt of management information that will really help increasing efficiency of criminal proceedings<sup>36</sup>.

One of the innovative areas of optimization of investigative activities

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33 Шур Б. В. Теоретичні основи формування та застосування криміналістичних методик : монографія. Харків, 2010. С. 25.

34 Шепітько В. Ю. Інновації в криміналістиці як віддзеркалення розвитку науки. *Інноваційні методи та цифрові технології в криміналістиці, судовій експертизі та юридичній практиці* : мат-ли міжнар. «круглого столу». Харків, 2019. С. 150.

35 Шепітько В. Ю., Журавель В. А., Авдеева Г. К. Інновації в криміналістиці та їх впровадження ... . С. 42.

36 Журавель В. А. Формалізація як інноваційний засіб оптимізації досудового розслідування.

and some forensic methods proposed by scientists that can significantly increase efficiency of the subjects of criminal proceedings are scientific developments in the formation and implementation of tactical operations using modern information technology. In order to further improve the developed information systems and create appropriate conditions for their successful implementation, it is proposed to supplement the software and information system of the of the investigator workstation with a “Tactical Operations” separate module providing it in the Forensic Methods block. Creation of such a module will contribute to improvement of the information technology program of the “Інсайт” Investigator workstation expand the implementation scope in activities of the investigator of modern innovative projects will serve as a basis for decision-making in accordance with his work <sup>37</sup>.

## Conclusions

Given the above, we can conclude that exploration of optimization issues of investigative (detective) activities through introduction of innovative approaches are quite relevant and significant, both in theoretical and practical sense. As practice shows, criminalistics is an innovative and applied science that is constantly evolving and is associated with creation and implementation of innovative tools, methods and technologies <sup>38</sup>. Timely response to political and economic changes taking place in the world and society, contribute to the rapid response of criminology to all the “novels” used by offenders in committing criminal offenses.

Therefore, development of effective practical recommendations for pre-trial investigation is usually caused by the emergence of new criminal manifestations that have arisen as a result of economic and social changes and changes in legislation and aimed at optimizing investigative (detective) activities. It is seen that further study of these problems will help resolve controversial positions of scientists on innovative areas of improvement and efficiency of criminal proceedings, development of theoretical and methodological foundations of forensic innovation, enrich the general theory of forensics and increase the efficiency of criminal investigation.

### Інноваційні напрями оптимізації слідчої (детективної) діяльності у сучасних умовах

Віктор Шевчук

*Статтю присвячено проблемам оптимізації слідчої (детективної) діяльності шляхом застосування інноваційних підходів до вирішення завдань кримінального судочинства й запровадження їх положень і рекомендацій у правозастосовну практику. Визначено та розглянуто найважливіші інноваційні напрями розвитку сучасної криміналістичної науки, спрямовані на оптимізацію слідчої (детективної) діяльності в умовах трансформації злочинності, інформаційних та епідеміологічних загроз суспільству. Обґрунтовано, що в реаліях сьогодення застосування інноваційних підходів сприяє результативності розслідування, оптимізує слідчу (детективну) діяльність і забезпечує ефективність кримінального провадження й судочинства. Зазначено, що сьгодні одним із найперспективніших напрямів удосконалення боротьби зі злочинністю є розроблення, впровадження та застосування криміналістичних інновацій.*

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*Інноваційні методи та цифрові технології в криміналістиці, судовій експертизі та юридичній практиці* : мат-ли «круглого столу» (Харків, 12.12.2019). Харків, 2019. С. 59–62.

37 Шевчук В. М. Тактичні операції у криміналістиці: теоретичні засади формування та практика реалізації : монографія. Харків, 2013. С. 350–370.

38 Шепітько В. Ю. Інновації в криміналістиці як віддзеркалення ...

Виокремлено й розглянуто три напрями виявлення, розроблення та запровадження криміналістичних інновацій — техніко-криміналістичний, тактико-криміналістичний і забезпечення криміналістичної методики розслідування окремих видів кримінальних правопорушень. Визначено основні завдання й очікувані результати впровадження інновацій у право-застосовну практику. Сформульовано теоретико-методологічні засади розроблення та формування концепції інноваційних засад криміналістичного забезпечення оптимізації слідчої (детективної) діяльності. Обґрунтовано нові наукові підходи до вирішення спірних питань і визначено перспективні напрями досліджень у цій царині.

**Ключові слова:** ефективність і якість досудового розслідування; оптимізація слідчої (детективної) діяльності; інновації у криміналістиці; криміналістична інноватика; інновації у криміналістичній техніці, тактиці та методиці.

### **Инновационные направления оптимизации следственной (детективной) деятельности в современных условиях**

**Виктор Шевчук**

Статья посвящена проблемам оптимизации следственной (детективной) деятельности путём применения инновационных подходов к решению задач уголовного судопроизводства и внедрения их положений и рекомендаций в правоприменительную практику. Определены и рассмотрены важнейшие инновационные направления развития современной криминалистической науки, направленные на оптимизацию следственной (детективной) деятельности в условиях трансформации преступности, информационных и эпидемиологических угроз обществу. Обосновано, что в современных реалиях применение инновационных подходов способствует результативности расследования, оптимизирует следственную (детективную) деятельность и обеспечивает эффективность уголовного производства и судопроизводства.

Отмечено, что в настоящее время одно из наиболее перспективных направлений усовершенствования борьбы с преступностью — это

разработка, внедрение и применение криминалистических инноваций.

Выделены и рассмотрены три направления выявления, разработки и внедрения криминалистических инноваций — технико-криминалистический, тактико-криминалистический и обеспечение криминалистической методики расследования отдельных видов уголовных правонарушений. Определены основные задачи и ожидаемые результаты внедрения инноваций в правоприменительную практику. Сформулированы теоретико-методологические основы разработки и формирования концепции инновационных принципов криминалистического обеспечения оптимизации следственной (детективной) деятельности. Обоснованы новые научные подходы к решению спорных вопросов и определены перспективные направления исследований в этой области.

**Ключевые слова:** эффективность и качество досудебного расследования; оптимизация следственной (детективной) деятельности; инновации в криминалистике; криминалистическая инноватика; инновации в криминалистической технике, тактике и методике.

### **Funding**

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### **Disclaimer**

The funders had no role in the study design, data collection and analysis, decision to publish, or preparation of the manuscript.

### **Contributors**

The author contributed solely to the intellectual discussion underlying this paper, case-law exploration, writing and editing, and accept responsibility for the content and interpretation.

### **Declaration of Competing Interest**

Although the author is a member of the Journal Advisory Board (this can lead to

potential conflicts of interest or prejudice), the final decision regarding this article publication was made by other editors, following the reviewers' recommendations.

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