

REPORT

of dissertation for the acquisition of:

educational and scientific degree " doctor "	X
scientific degree "Doctor of Science"	
	the true is indicated by the sign "X"

Author of the dissertation:

		Milazim		Tahirukaj	Kosovo Forensic Agency, Laboratory Pristina
academic position	scientific degree	name	middle name	last name	workplace

Topic of the dissertation:

DEVELOPMENT AND VALIDATION OF SEM/EDAX METHOD FOR ANALYSIS OF GUNSHOT RESIDUES
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Scientific area:

4.	Natural Sciences
code	name

Professional area:

4.2.	Chemical Sciences
code	name

Scientific specialty:

Analytical Chemistry

The report was written by:

Prof.	Dr.	Dancho	Lyubenov	Danalev	UCTM
academic position	scientific degree	name	middle name	last name	workplace

1. Meeting the minimum requirements under the Regulations:

A) The candidate meets the minimum requirements	20 points	X
B) The candidate doesn't meet the minimum requirements	0 points	
		one of the answers given is marked with the sign "X"

It is mandatory to fill in if answer B is marked. The publication activity of the candidate is analyzed. The response of the results achieved (quoted) is analyzed.

The candidate for Ph.D. degree Milazim Tahirukai presents two publications on the topic of the developed Ph.D. thesis in journals with i.f. and Q2, which bring to him 2 x 20 points or a total of 40 points, while 30 are needed according to the minimum national requirements of the Regulations for the Implementation of the Law on the Development of the Academic Staff of the Republic of Bulgaria and that of the UCTM to obtain the claimed Ph.D. degree. The both journals - Journal of Forensic Sciences and Applied Sciences, in which the works are published, are prestigious international journals with a high i.f., which is an excellent certificate for the level of the development made.

2. The relevance of the topic of the dissertation:

A) The topic is relevant and new (there are no known results on the topic by other authors)	8 points	X
B) The topic is relevant and results from other authors are known	6 points	
C) The topic is not relevant, but results from other authors are known	2 points	
D) The topic is not relevant and no results from other authors are known	1 point	
E) The topic does not correspond to the level of dissertation	0 points	
		one of the answers given is marked with the sign "X"

The evaluation of the relevance of the dissertation must be substantiated

The development and validation of methods for the analysis of controlled substances in practice is a mandatory part according to World, European and Bulgarian legislation. The validation process is precisely described in the relevant official documents, and from the described in the Ph.D. thesis, it can be seen that the candidate for Doctoral degree has covered all the required criteria according to the guiding document for its development ISO17025 and other related documents. The approaches used in the dissertation work are correct and described and interpreted in detail, which does not raise any doubt about the correct approach used in developing the dissertation work. The topic of developing a working methodology in the field of forensics for the correct evaluation of gunpowder residues after shooting is extremely relevant, which is also proven by 107 modern literary sources cited in the dissertation, of which 17 are after 2020 and only 7 are from period before 2000. I would like to mention here that the literature is cited quite ununified, which I hope in the future the PhD student will avoid when writing his researches.

3. Type of research:

A) Theoretical	4 points	
B) Applied	4 points	
C) Theoretical with application elements	4 points	X
D) It does not correspond to the level of dissertation	0 points	
		one of the answers given is marked with the sign "X"

The level of research must be substantiated if answer D is marked.

Finding suitable methods for analysis, control and evaluation, directly applicable in practice, according to international documents and regulations, is the duty of every control laboratory, and in this context, the topic is not only excellent theoretically postulated, but also with direct application in practice. Proof of this is the official certificate from the laboratory presented at the end of the Ph.D. thesis.

4. Objectives of the research:

A) Realistic and of scientific and / or applied interest	8 points	X
B) Realistic, but not of scientific and / or applied interest	3 points	
C) Unattainable (unrealistic)	0 points	
		one of the answers given is marked with the sign "X"

Objectives must be specified. The type of the set objectives must be justified.

All the experiments realized and described in the dissertation work are well-argued and actually conducted, which is evident from the excellently constructed trial setups of the experiments. The obtained results are correctly described, interpreted and compared with other available similar results, where such exist and are possible. The obtained data will undoubtedly serve for future directions and developments in the field in comparing and developing methodologies for the evaluation of gunpowder residues after firing with different types of weapons and in other laboratories.

5. Contributions of the dissertation:

A) With lasting scientific and / or applied response, they form the basis for new research and applications	20 points	X
B) They are of significant scientific and / or applied interest, complete and / or summarize previous research	16 points	
C) They are of scientific and / or applied interest	12 points	
D) Lack of significant contributions	8 points	
E) Lack of contributions	0 points	
		one of the answers given is marked with the sign "X"

Contributions must be specified. The type of results achieved must be justified.

The developed and validated method for the analysis and evaluation of gunpowder residues presented in the dissertation was made in order to cover the needs of a control laboratory and to be used in the future as a real working and comparative method in forensics. In this regard, it is unequivocally clear that it has a lasting scientific and applied resonance. It also provides an opportunity for future research in other aspects of the development, which will lead to the enrichment of the accumulated database from the experiments in the dissertation work.

6. Conclusion

A) The evaluation of the dissertation is POSITIVE	This evaluation is assigned to a total number of at least 40 points	POSITIVE
B) The evaluation of the dissertation is NEGATIVE	This evaluation is assigned to a total number below 40 points	
		one of the answers given is marked with the sign "X"

To be filled in at the request of the member of the scientific jury

Based on the above mentioned, I am convinced that the doctoral student Milazim Tahirukai has met the necessary minimum state requirements for acquiring the Ph.D. degree, according to the current legislation of

degree in scientific field 4. Natural Sciences, PA 4.2. Chemical Sciences, Scientific specialty: Analytical Chemistry.

04.05.2023	The report was written by:	
date		signature