Appendix 12d

REPORT
to occupy the academic position:

''Professor''	
''Associate Professor''	X
	one of the academic positions indicated shall be marked with the sign "X"

Candidates to occupy the position:

1	Senior Assistant Professor	PhD	Temenuzhka	Hristova	Radoykova	UCTM
№	academic position	scientific degree	name	middle name	last name	workplace

Scientific area:

4	Natural sciences, mathematics and informatics
code	name

Professional area:

4.2	Chemical Sciences
code	name

Scientific specialty:

Analytical chemistry

The competition has been announced:

64	05.08.2025	Analytical chemistry	Faculty of Chemical Technology
in SG issue	date	for the needs of the Department	Faculty

The report was written by:

Assoc. Prof.	PhD	Valentina	Veselinova	Lyubomirova	SU “St. Kliment Ohridski
academic position	scientific degree	name	middle name	last name	workplace

1. Report for the candidate:

“Senior Assistant Professor	PhD	Temenuzhka	Hristova	Radoykova
academic position	scientific degree	name	middle name	last name

1.1. 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 must be filled in if answer B is marked. The publication activity of the candidate is analyzed. The response of the results achieved (quoted) is analyzed.

1.2. Relevance of scientific and / or applied research:

A) The research is relevant. Part of the research is pioneering (no results are known on the topic by other authors)	8 points	X
B) Research is relevant. Results from other authors are known for each of the topics and / or applications studied.	6 points	
C) Most of the research is relevant, but also some results are presented that have no scientific and / or applied value	4 points	
D) The smaller part of the research is relevant	2 points	
E) Research is not relevant	0 points	
		one of the answers given is marked with the sign "X"

The evaluation of the relevance of the research must be substantiated.
The achievements and main results of the candidate are summarized and presented in the following three current fields, affecting important environmental problems: - Valuable low-molecular weight phenolic compounds were obtained and characterized from various waste hydrolyzed lignocellulosic materials, the conditions for extraction from various waste biomasses were optimized, their effectiveness as antioxidant additives for gasoline was studied and proven.

- Various instrumental methods were applied for the characterization of waste plant materials with practical application. The possibility of utilizing waste products from biomass (hydrolyzed lignocellulosic materials, bark, agricultural waste) as absorbents of heavy metals (Mn^{2+} , Cu^{2+} , Ag^{+}) was established, methods for obtaining activated carbon from hydrolyzed lignin with excellent textural characteristics and high adsorption capacity for heavy and rare metals were developed; antimicrobial properties of waste lignocellulosic materials by modification with Ag^{+} have been proven, as well as their application as energy raw materials, with proven high calorific value and potential for application as fuel;
- Characterization of waste products from metallurgy and thermal power plants and study of the possibility of their utilization. The possibility of obtaining catalysts for water purification from metallurgical slag, obtaining geopolymers from mining waste (tail) and fly ash (from coal-fired power plants) has been studied and proven.

1.3. 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	4 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
The objectives of the research under consideration are of a scientific and applied interest and are as follows: 1. To study of the possibilities for obtaining and characterization of low-molecular weight phenolic compounds from lignocellulosic materials with an inhibitory effect on the oxidation of hydrocarbons. 2. To assess the possibility of utilizing various waste biomass products as absorbents of heavy metal ions and to study the absorption mechanism. 3. To study the possibilities for utilizing waste and secondary industrial products.

1.4. Candidate research contributions:

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 conducted research and the obtained results are extremely relevant and will have a lasting scientific and applied impact in the utilization of waste products. I would like to highlight the following contributions: - Preparation and study of valuable low-molecular weight phenolic compounds with antioxidant activity; - Proposing an approach for the utilization of hydrolyzed lignocellulosic materials as adsorbents of heavy metals and rare metals; - Application of waste lignocellulosic materials as energy raw materials, as well as antimicrobial agents; - Characterization and optimization of approaches for the application of waste products, e.g. metallurgical slag for waste gas purification, mining waste (tailings) and fly ash (from coal-fired power plants) as raw materials for the production of geopolymers.

1.5. Participation of the candidate in the achievement of the presented results:

A) The candidate has at least an equal participation in the submitted papers	8 points	X
B) The candidate has at least an equal participation in most of the submitted papers	7 points	
C) The candidate has a secondary participation in most of the submitted papers	4 points	
D) The candidate participation is unnoticeable	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the items C or D is marked.
The candidate participates with a list of 28 scientific papers, 19 of which are published in scientific journals with an impact factor; 4 in journals with an impact rank, 3 are in proceedings of scientific conferences, presented in Conference Proceeding in Scopus and Web of Science, and 2 are in Conference Proceeding with

an ISSN number, which leaves no doubt about the quality of the work done. In the scientific papers, the candidate is the first author in 13 publications and the second in 8 of them. This shows the active and competent participation of the candidate.

1.6 Pedagogical activity:

A) The candidate has effective and sufficient pedagogical activity at the university. The textbooks issued are modern and useful (they meet the requirements of the Regulations). The work with undergraduate and doctoral students is at a high professional level.	8 points	X
B) The candidate has sufficient pedagogical activity at the university. The textbooks issued satisfy the requirements of the Regulations.	6 points	
C) The pedagogical activity and / or textbooks issued are insufficient (do not meet the requirements of the Regulations)	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the items B or C is marked.

1.7. Critical notes:

A) Lack of critical notes	8 points	X
B) Critical notes of a technical nature	7 points	
C) Critical notes that would partially improve the results achieved in a small part of the research	5 points	
D) Critical notes that would partially improve the results achieved in most of the research	3 points	
E) Significant critical notes	0 points	
		one of the answers given is marked with the sign "X"

Critical notes must be provided if one of the answers C, D or E is marked.

1.8. Conclusion

A) The evaluation of the candidate's activity is **POSITIVE**	This evaluation is assigned to a total number of at least 50 points	
B) The evaluation of the candidate's activity is **NEGATIVE**	This evaluation is assigned to a total number below 50 points	
		one of the answers given is marked with the sign "X"

To be filled in if requested by the member of the scientific jury
The documents and materials presented by Senior Assit. Prof. PhD Temenuzhka Radoykova meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation and the Regulations for the Acquisition of Scientific Degrees and Occupation of Academic Positions at the UCTM. The candidate has presented a sufficient number of scientific papers published in journals, refereed and indexed in world-renowned databases. The research and contributions have original scientific and scientific applied contributions. In conclusion, Dr. Radoykova is an erudite and responsible researcher and lecturer. I confidently give my positive assessment and recommend to the Scientific Jury to vote for awarding the academic position of "associate professor" to Senior Assit. Prof. PhD Temenuzhka Radoykova in the scientific specialty "Analytical Chemistry" at the University of Chemical Technology and Metallurgy.

17.11.2025	The report was written by:	
date	**Assoc. Prof. Valentina Lyubomirova**	signature