

REVIEW

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	Chief assistant professor	PhD	Silvia	Igorova	Lavrova-Popova	University of Chemical Technology and Metallurgy
№	academic position	scientific degree	name	middle name	last name	workplace
2						
№	academic position	scientific degree	name	middle name	last name	workplace
3						
№	academic position	scientific degree	name	middle name	last name	workplace

Scientific area:

5	Technical sciences
code	name

Professional area:

5.13	General Engineering
code	name

Scientific specialty:

Water treatment technology

The competition has been announced:

101	27.12.2019	Department of Engineering Ecology	Chemical and systems engineering
in SG issue	date	for the needs of	Faculty

The review was written by:

Professor	PhD, DSc	Jordan	Yankov	Hristov	University of Chemical Technology and metallurgy, Sofia
academic position	scientific degree	name	middle name	last name	workplace

1. Review for the candidate:

Chief assistant professor	PhD	Silvia	Igorova	Lavrova-Popova
academic position	scientific degree	name	middle name	last name

1.1. Completion of the provided documents:

A) The competition documents are in full compliance with the Regulations	3 points	x
B) The documents are complete but do not fully comply with the requirements of the Regulations	2 points	
C) The documents are not completed in accordance with the requirements of the Regulations	0 points	
		one of the answers given is marked with the sign "X"

Missing documents and violated requirements must be described if response C is marked.
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1.2. 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.

1.3. 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)	7 points	
B) Research is relevant. Results from other authors are known for each of the topics and / or applications studied.	5 points	x
C) Most of the research is relevant, but also some results are presented that have no scientific and / or applied value	3 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.
Doctor Lavroa has performed studies on removal of dangerous substances /heavy metals / from waster waters and natural by adsorption methods and the wet zone technology. This a

thematically oriented trend followed since the PhD thesis.

The problem are hot worldwide taking into account the environmental protection issues e the drinking water treatment technologies.

The studies has been carried out mainly experimentally, but there are generalization of the results obtained and application of mathematical modelling.

- The adsorption methods are oriented towards mono and multi-adsorption of heavy metals. .
- The principel adsorbent used is clinoptilolite. .
- Other trend in the studies is characterization of local waters of domestic rivers / Mritsa nd Tundja/ is specific regions of Bulgaria.

The results are important from engineering and ecological points of view and provide solutions directly applicable to practical problems. At the same time they have scientific values taking into account the specific problems in the field of ecology and water treatment for wastewater decontamination and drinking water pre-treatment.

As a measure of the results importance it should be mentioned that there are 101 citations in scientific papers. .

1.4. Knowledge of the problems subject of research:

A) The candidate knows in detail the achievements of other authors on the researched topics and/or applications	6 points	x
B) The candidate is partially familiar with the achieved results on the researched topics and / or applications	4 points	
C) The candidate has no prior knowledge of the status of the researched problems	0 points	
		one of the answers given is marked with the sign "X"

The evaluation must be substantiated if answer C is marked.

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1.5. Type of research:

A) Theoretical	4 points	
B) Applied	4 points	x
C) Theoretical with application elements	4 points	
D) It does not correspond to the level specified in the Act for the Development of the Academic Staff in the Republic of Bulgaria and the Regulations	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.

The level and quality of the studies performed by Dr. Lavrova satisfy the requirements of prestigious journals. However, it should be taken into account that such type of studies has local (regional) character with details specific for each region and country. In the dominating cases the methodologies are similar, despite the specific domestic adsorbent used, and data presentations as adsorption capacities and regression established isotherms.

As a measure of the results importance it should be mentioned that there are 101 citations in scientific papers

1.6. 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 studies performed are mainly experiential, but there are generalizations and mathematical model applications. .

- The adsorption methods are oriented towards mono and multi-adsorption of heavy metals. .
- The principal adsorbent used is clinoptilolite. .
- Other trend in the studies is characterization of local waters of domestic rivers / Mritsa nd Tundja/ is specific regions of Bulgaria.

The task are practically oriented and depend on every particular problem related to wastewater decontaminations. .

1.7. Methods of research:

A) Adequate to research and set scientific objectives and /or applications	8 points	x
B) Partially appropriate, enabling part of the scientific objectives and / or applications to be achieved	4 points	
C) Inappropriate methods	0 points	
		one of the answers given is marked with the sign "X"

Methods must be specified. The type of methods used is justified.

- The adsorption methods are oriented towards mono and multi-adsorption of heavy metals. .
- The principal adsorbent used is clinoptilolite. .
- Other trend in the studies is characterization of local waters of domestic rivers / Mritsa nd Tundja/ is specific regions of Bulgaria.

1.8. Candidate research contributions:

A) With lasting scientific and / or applied response, they form the basis for new research and applications	20 points	
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B) They are of significant scientific and / or applied interest, complete and / or summarize previous research	16 points	x
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 contributions are mainly with applied character taking into account the specificity of the research area where Dr. Lavrova carried out his research.

1.9. 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.

1.10. 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.

1.11. 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.

1.12. Conclusion

A) The evaluation of the candidate's activity is POSITIVE	This evaluation is assigned to a total number of at least 65 points	94
B) The evaluation of the candidate's activity is NEGATIVE	This evaluation is assigned to a total number below 65 points	
		one of the answers given is marked with the sign "X"

To be filled in if requested by the reviewer

In accordance with the rules of UCTM and the law of academic promotions the materials presented by the candidate and the scientific results obtained allow to suggest senior assistant professor Silvia Igorova Lavrova-Popova, PhD, to be promoted to the position of Associate Professor (5.Technical sciences, direction 5.13. General Engineering (Water treatment technologies)).

Candidate ranking (in case of more than one candidate who has received a positive evaluation to occupy the academic position):

05.05.2020	The report was written by:	
date	Prof. Jordan Yankov Hristov, PhD, DSc	signature