

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	Chief assistant professor	Dr.	Vesislava	Borislavova	Toteva	University of Chemical Technology and Metallurgy
№	academic position	scientific degree	name	middle name	last name	workplace

Scientific area:

5	Technical sciences
code	name

Professional area:

5.10	Chemical technology
code	name

Scientific specialty:

Technology of the natural and synthetic fuels.
--

The competition has been announced:

67	13.08.2021	"Textile, leather and fuels"	Chemical technologies
in SG issue	date	for the needs of the Department	Faculty

The report was written by:

Associate Professor	Dr.	Dimitar	Tsvetkov	Peshev	University of Chemical Technology and Metallurgy
---------------------	-----	---------	----------	--------	--

academic position	scientific degree	name	middle name	last name	workplace
-------------------	-------------------	------	-------------	-----------	-----------

1. Report for the candidate:

Chief assistant professor	Dr.	Vesislava	Borislavova	Toteva
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.

The only candidate in the competition, Chief Assistant Professor Vesislava Borislavova Toteva, presented all materials in accordance with the provisions of the "Law for the Development of Academic Staff in the Republic of Bulgaria" and of the Rules of its application at UCTM Sofia. A total of 38 publications have been submitted for participation in the competition.

According to indicator 4, the candidate has presented exactly 10 own publications in journals referenced and indexed in world-famous databases with scientific information, with which she collects 126 points with a required minimum of 100 points. From publications in other peer-reviewed journals that are referenced and indexed in world-famous databases with scientific information, the candidate collects 164.7 points. From publications in non-indexed in world-famous databases peer-reviewed journals or in edited collective volumes - 63.7 points. Thus, in total, according to indicators 5-11, the candidate has 228.4 points with a norm of 200 points. A total of 600 points from the citations are presented, which is many times above the required minimum of 50 points.

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	
B) Research is relevant. Results from other authors are known for each of the topics and / or applications studied.	6 points	X

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.
<p>The scientific interests of Chief Assistant Professor Vesislava Toteva are directed in four directions - preparation and application of biosorbents (activated carbon) based on waste biomass; preparation and application of modified nanocomposite materials in water purification; production of low- and ultra-low sulfur fuels using alternative hydrodesulfurization methods; investigation in laboratory and industrial conditions of the influence of technological factors on the yield and quality of the products of the hydrocracking; reactivity of heavy oils in catalytic and thermal cracking.</p> <p>The presented research in the first two areas and the achieved results can easily be linked to two of the seven public challenges of the European Commission defined in the HORIZON2020 program, such as "safe, clean and efficient energy", and "climate action, environment, resource efficiency and raw materials". The European Commission determines that targeted investment in research and innovation in these areas can have a real impact on citizens, and therefore the applicant's research in the first two of the areas mentioned above is undoubtedly relevant. However, the topics have been the subject of intensive research and publications in the world literature, as a result of which the assessment of this indicator is B. With relatively less potential for generating fundamental scientific knowledge, but with a pronounced applied nature are the works of Chief Assistant Professor Vesislava Toteva in the field of fuel desulfurization and the influence of technological factors on the yield and quality of products from the processes of hydrocracking, thermal and visbreaking on a laboratory and industrial scale.</p> <p>The relevance of the research is illustrated by the satisfactory number of citations - 81 in specialized scientific journals, referenced and indexed in world-famous databases /Scopus/.</p>

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 scientific works of Chief Assistant Professor Vesislava Toteva with which she participates in this competition are well-founded, realistic, clearly formulated and correspond to the current scientific research in the field of her research. The objectives fully correspond to the achieved results (see item 1.4.)

1.4. Candidate research contributions:

A) With lasting scientific and / or applied response, they form the basis for new research and applications	20 points	
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.
<p>The high significance of the achieved results of the candidate is supported by the significant echo of her works in the scientific literature. The main fundamental scientific and applied contributions of the candidate are:</p> <ul style="list-style-type: none"> • Possibilities for desulfurization and dearomatization of fuels through methods alternative to the hydrodesulfurization, have been identified, combining oxidative desulfurization (oxidation of thiophene derivatives with hydrogen peroxide to sulfones and sulfoxides) with the extraction and adsorption processes, incl. and with the development of biosorbents for the extraction of sulfur compounds from oxidized model mixtures; • Biosorbents (activated carbons) based on different types of waste biomass have been obtained with characteristics that allow their application for cleaning oil spills, capture of organic pollutants and metal ions from wastewater, selective adsorption or storage of gases; • Protocols have been established for increasing the efficiency of the work of installations for processing of heavy oil fractions (in most of the scientific works these were related to specific installations on an industrial scale in the territory of Lukoil Neftochim - Burgas), through laboratory and industrial studies of the influence of basic technological factors on the yield and quality of the products of the hydrocracking, thermal and visbreaking processes.

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.

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	X
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
As a result of the review and analysis of the submitted documents for the announced competition, I firmly claim my positive assessment of the application of Chief Assistant Professor Dr. Vesislava Toteva. She covers all qualitative and quantitative requirements and I recommend to the Faculty Council of the Faculty of Chemical Technologies at UCTM Sofia to choose her as an "Associate Professor" in the scientific specialty 5.10. Chemical technologies (Technology of the natural and synthetic fuels.).

27.11.2020	The report was written by:	
date	Assoc. Prof. Dr. Dimitar Tsvetkov Peshev	signature