

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	Assistant professor	PhD	Darina	Ivanova	Jeleva	UCTM
№	academic position	scientific degree	name	middle name	last name	workplace

Scientific area:

5	Technical sciences
code	name

Professional area:

5.10	Chemical Technologies
code	name

Scientific specialty:

Shoemaking Technology

The competition has been announced:

108	22.12.2020	Textiles and leather	Faculty of Chemical Technologies
in SG issue	date	for the needs of the Department	Faculty

The review was written by:

Associate Professor	PhD	Margarita	Yordanova	Simeonova	UCTM, retired
academic position	scientific degree	name	middle name	last name	workplace

1. Review for the candidate:

Assistant professor	PhD	Darina	Ivanova	Zheleva
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.

All the necessary documents for the competition for "Associate Professor" in accordance with the requirements of the Regulations for the acquisition of scientific degrees and holding academic positions at UCTM from 2019 are presented.

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.

In the competition for the academic position of "Associate Professor", the only candidate Assistant Professor Dr. Darina Ivanova Jeleva participates with 27 scientific publications, which are not part of the presented for obtaining the educational and scientific degree "Doctor", and one textbook. The presented list of citations contains 31 citations of 7 of Dr. Jeleva's works, presented under Indicator 4. Of these, 14 are reflected in world-known databases Scopus and Web of Science and 17 are in unrefereed journals. The Hirsch index of the candidate, according to Scopus, is 3.

According to indicator A.1 (50 points): Dr. Jeleva has a defended dissertation on "Rheological properties of filled rubber compounds and rheological additives."

The points collected under indicator B.4 430 (received from 10 publications, equated to habilitation work, of which 9 publications in journals with impact factor, referenced and indexed in Scopus and Web of Science and 1 chapter of a book indexed in Scopus) significantly exceed the minimum required 100. The sum of points on indicators G (5-11) is 248.4 points, with a minimum required of 200. The sum of points on indicators D (12-15) is 184, with a minimum required of 50 points. The number of these points should be reduced to 174, as Dr. Jeleva's review of an article in the *Journal of Adhesion Science and Technology* was incorrectly included in the citation reference. The points on indicator E (23) are 40.

Dr. Jeleva was part of the working team for the implementation of 2 contracts (1 international for bilateral cooperation and 1 national under the Operational Program Competitiveness) and managed 7 contracts funded by R&D Sector at UCTM.

The candidate fully satisfies, and according to some of the indicators significantly exceeds the minimum requirements for holding the academic position of "Associate Professor", specified in ZRASRB and the Rules of UCTM from 2019 for Scientific field 5: Technical sciences, Professional field: 5.10: Chemical technologies. With a minimum required of 400 points per group of indicators for holding the academic position of "Associate Professor" at UCTM, the total number of points of the candidate is 952.4. (942.4 with the reduction according to indicator D (12-15)).

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	
C) Most of the research is relevant, but also some results are presented that have no scientific and / or applied value	3 points	X
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 scientific research in the works of the candidate, submitted for participation in the competition for "associate professor" are entirely in the field of the scientific specialty of the announced competition. In the publications presented as a habilitation thesis (Indicator 4 of the list of publications) the subject of research is the properties, structure and influence of some additives on the morphology and rheological behavior of various rubber composites and chloroprene adhesive compositions intended for footwear technology (publications 1,2,4-7,10). Evidence for the relevance of these studies is the observed citations, including in world-known databases of scientific information. The article (№ 5, Indicator 4 of the list of publications), published in the *Journal of the University of Chemical Technology and Metallurgy*, 48 (3), 241-246, 2013, received a relatively wide response among the scientific community (4 citations, reflected in Scopus and 9 citations in unrefereed scientific peer-reviewed journals). Similar studies are presented in publications 1-6, Indicator 8 of the list of publications. Of interest are the applicant's research related to the processing of collagen- and keratin-containing wastes from leather and textile production and the development of biocomposites based on collagen and keratin (publication 9, Indicator 4 of the list of publications; publications 1,2, Indicator 7 from the list of publications, publications 11,12, Indicator 8 from the list of publications) with interesting potential applications in various fields, such as tissue engineering, medicine, etc. The recovery of animal waste, in addition to raw materials, also has a significant environmental contribution. Publications 7,10, 13-15, presented under Indicator 8 from the list of publications of the candidate, are scientific-educational and have an insignificant contribution to enriching the scientific field with new knowledge.

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.

Dr. Jeleva knows in depth and in detail the current state of research in the field, as evidenced by their reflection in her research.

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 research in the presented works has a scientific and applied character with elements of innovation potential.

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 objectives of the research are well-founded, realistic, in some cases innovative and correspond to the current scientific and applied research in the scientific field of the candidate.

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 methods used are adequate to the research and the set scientific and applied goals, typical for the scientific field of the candidate.

1.8. 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	
C) They are of scientific and / or applied interest	12 points	X
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 main contributions to Dr. Jeleva's research are scientific and applied with innovative elements and concern the purposeful development and rheological characterization of new materials with desired properties, suitable for footwear technology or extraction of valuable raw materials from processing of collagen- and keratin-containing waste. from leather and textile production for various areas of the economy. The contributions can be summarized in the following areas:

- Study of the effect of different dispersing additives and their influence on the rheological properties of different butadiene styrene and chloroprene rubber compositions and development of a method for determining the optimal amount of the dispersant. To characterize the processability of rubber compounds, a correlation was found between the Mooney viscosity and the torque of the Brabender plastic cord for rubber compounds, and the corresponding equations were derived.
- Study of the properties and structure of polychloroprene adhesive compositions used in footwear technology. The morphology of polychloroprene adhesives based on chloroprene rubbers with different degrees of crystallization and different types of additives (resins, hardener, metal oxides involved in the vulcanization of rubber, etc.) has been studied. It has been established that the properties of the adhesive compositions of a given formulation can be predicted by morphological studies and determination of the coefficient of mechanical crystallization. The rheological properties of chloroprene adhesive compositions have been studied, as the viscosity of the adhesive composition is extremely important for the high strength of the adhesive bond and for the wetting of the substrate by the adhesive.
- Study of the possibilities for processing of collagen- and keratin-containing wastes from leather and textile production and the application of keratin and collagen in different fields. Of particular interest is the preparation of biocomposite materials based on keratin and collagen, and their characterization with a view to potential application in tissue engineering and medicine.
- Research of some ecological aspects of footwear production, with a view to finding opportunities for process optimization and reduction of environmental pollution through the application of environmentally friendly technologies and materials.

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
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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.

In the 27 scientific papers submitted for participation in the competition for "associate professor", the candidate is the sole author in 12 of them, and in 11 he is the first author, which proves the leading or at least equal participation of Dr. Jeleva in most of the submitted works.

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.

According to the presented reference, the lecture courses conducted by Dr. Jeleva (from 2007 until now) in the bachelor's degree of full-time and part-time students include 8 lecture courses in the specialty "Technological design of textiles and leather", 2 lecture courses in the specialty "Materials Science" with elective module "Polymer Materials" and 1 in the specialty "Engineering Ecology and Environmental Protection".

Dr. Jeleva has developed 2 new lecture courses for the bachelor's degree: one (together with Assoc. Prof. Dr. D. Grabcheva) for the specialty "Industrial Safety" and one for the newly introduced for the academic year 2020/2021 bachelor's degree "Biomaterials for application in medicine" at the Faculty of Metallurgy and Metallurgy

Dr. Jeleva has lectured in 9 disciplines (3 of them until 2019) in the Master's Degree in Textiles and Leather and Products thereof and has developed 3 new lecture courses for the introduced new Master's Degree in Medical Textiles. for the academic year 2020/2021

She has conducted laboratory exercises in general education disciplines for students in the bachelor's degree in full-time and part-time education.

Under her leadership, for the period 2009-2020, a total of 17 graduates (16 bachelors and 1 master) defended their diplomas.

The candidate is the author of the textbook "Polymers in textile, leather and footwear production" ISBN 978-954-91951-4-9), 2020, published by NTS Publishing House for Textiles, Clothing and Leather. The textbook is intended for students studying the processing of textiles, leather and polymers, as well as for students from vocational high schools in textile and leather products, textiles and fashion design.

1.11. Critical notes:

A) Lack of critical notes	8 points	
B) Critical notes of a technical nature	7 points	X
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.

A technical error was made during the preparation of the materials for the competition. In the chapter of the Tables from Annexes 6a, 6c and 6d there is a wrong reference to Annex 2b of PPNSZAD, instead of the correct reference to Annex 2h. This leads to some confusion when evaluating the candidate's point asset.

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	X (total numbers of points 87)
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

The evaluation of the submitted materials and scientometric indicators, which significantly exceed the recommended requirements for the academic position of "Associate Professor" according to ZRASRB, PPZRASRB and those specified in the Rules of UCTM from 2019, I give a positive assessment and recommend the Faculty Council to vote for election of the candidate for the academic position "Associate Professor" in Scientific field 5: Technical sciences, Professional field: 5.10: Chemical technologies for the needs of the Department of Textiles and Leather.

30.04.2021	The review was written by:	
date	Margarita Yordanova Simeonova	signature