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	Assistant Professor	Doctor	Tina	Radmilova	Tasheva	UCTM
№	academic position	scientific degree	name	middle name	last name	workplace

Scientific area:

5	Technical sciences
code	name

Professional area:

5.6.	Materials and materials science
code	name

Scientific specialty:

Silicate materials

The competition has been announced:

64	05.08.2025	Technology of the Silicates	Faculty of Metallurgy and Materials Science
in SG issue	date	for the needs of the Department	Faculty

The report was written by:

Professor	Doctor	Anna	Diakova	Staneva	UCTM
academic position	scientific degree	name	middle name	last name	workplace

1. Report for the candidate:

Assistant Professor	Doctor	Tina	Radmilova	Tasheva
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.
Senior Asst. Prof. Dr. Eng. Tina Tasheva has applied for the "Associate Professor" position with 18 scientific publications, 10 of which constitute her habilitation work, and an additional 8 articles, all of which have been published in journals indexed in Scopus and/or Web of Science. The scientific works of Dr. Tina Tasheva have been presented at 46 national and international scientific conferences. Dr. Tina Tasheva has been the coordinator of 5 contracts at the Research and Development Sector (RDS) at UCTM, 3 national and one international scientific projects funded by National Scientific Research Fund. She has also been a member of 4 national and 1 international scientific teams at the National Scientific Research Fund, a member of a team in a project at the National Recovery Plan of the Republic of Bulgaria. She has been the thesis advisor of 7 successfully graduated bachelor and master's students from the Department of Silicate Technology. The minimum required points for the academic position of Associate Professor, according to the minimum national and additional requirements of the UCTM, is 400 points. The candidate application is awarded a total of 761.24 points, 162.24 of which are awarded for the habilitation work in the form of scientific publications, 208 points are from other publications referenced and indexed in world-renowned databases with scientific information, and the remaining 391 are awarded based on project involvements and citations. I believe that the candidate meets the minimum requirements for participation in the competition for "Associate Professor" and significantly exceeds them.

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 candidate's research is relevant, as it contributes to the deepening of fundamental scientific research, and the development of new functional materials with predefined properties. The majority of the research is pioneering, due to the development of novel glass compositions in a large number of systems. Furthermore, Dr. Tasheva's research provides new, more precise values for some of the studied parameters. The structural characterization performed through an appropriate combination of modern analysis methods has contributed to establishing the relationship between composition, structure, and properties of the obtained glasses. Proof of the relevance of the topic of Dr. Tina Tasheva is the large number of citations (over 190) in journals with a high impact factor and her high Hirsch index - 7, which is determined based on all her publications.

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 goals set in the work of Dr. Tina Tasheva are realistic and of scientific and applied interest. The main directions in the work of Senior Asst. Prof. Dr. Eng. Tina Tasheva are related to the synthesis of various new compositions of oxide glass and the study of the influence of their structure on their properties. The first main goal of the work was to obtain new theoretical and experimental data on the electronic polarizability and optical basicity of simple oxides and oxide glasses, as

well as to establish the relationship between the composition, structure and properties, by applying the polarization approach.

A second important goal was to study the relationship between the composition, structure and properties of new, original glass compositions with the participation of classical and conventional glass-forming agents and modifying oxides, by applying an appropriate combination of modern methods for structural analysis. The possibility of their application as functional materials with magnetic, electrical, catalytic and optical properties was also studied.

The third main goal in the work of Asst. Prof. Dr. Eng. Tina Tasheva was to obtain and characterize new glasses, glass-ceramics and ceramics for application in dental and regenerative medicine.

To achieve the set goals, Asst. Prof. Dr. Eng. Tina Tasheva used a wide range of appropriate structural, spectroscopic and optical methods (X-ray diffraction (XRD), Infrared (FTIR) and Raman spectroscopy, X-ray photoelectron spectroscopy (XPS), UV-Vis spectroscopy, Differential thermal analysis (DTA), Mössbauer spectroscopy, Scanning electron microscopy (SEM), etc.), which provide an opportunity for a comprehensive characterization of the composition, structure and properties of the new functional material compositions obtained from her.

The results are significant scientific and applied contribution in the field of glass physical-chemistry and materials science, contributing to a deeper understanding of the relationship between the composition, structure and properties of the obtained materials, as well as being able to form the basis for the creation of new functional materials with promising optical and biomedical applications.

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 scientific contributions of Senior Asst. Prof. Dr. Eng. Tina Tasheva are related to the study of the interrelationships between the chemical composition, structure, electronic polarizability and optical properties of various oxide glass systems and multicomponent glassy systems, as well as to the development of new functional glassy,

glass-crystal and ceramic materials with potential for application in dental and regenerative medicine.

The polarization approach has been developed and applied, which allows for the quantitative determination of electronic polarizability and its relationship with the structural and chemical characteristics of glasses. Dependencies have been established between the optical basicity, the single bond strength and the microstructural features determining the macroscopic properties of materials. The results obtained have a significant contribution to the understanding of the mechanisms that control the optical and electronic characteristics of oxide glasses and create a basis for the targeted design of new functional materials with controllable properties.

The second group of contributions are related to the synthesis and structural characterization of new silicate and multicomponent glasses containing classical and conditional glass formers, as well as modifying oxides. The influence of Fe_2O_3 and ZrO_2 on the structure, physicochemical, physicomechanical and optical properties of the obtained glasses was studied. It was found that Fe_2O_3 leads to depolymerization of the silicate network and the appearance of non-bridging oxygens, while ZrO_2 contributes to the densification and stabilization of the structure, improving the mechanical and thermal characteristics in the studied system.

The third group of contributions are related to the development of new glassy, glass-ceramic and ceramic materials for dental and biomedical applications. New glasses were obtained, compatible in terms of thermal expansion coefficient with zirconium dental ceramics, demonstrating excellent adhesion, homogeneity and transparency. New compositions of bioactive glasses and ceramics based on biogenic hydroxyapatite have been synthesized, characterized by the formation of an apatite layer upon contact with saline and potential for application in bone regeneration and dental implants.

The results achieved and contributions in the candidate's work are of a scientific and applied science nature and contribute to the creation of new functional materials with promising optical and biomedical applications.

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"

I have known Asst. Prof. Dr. Eng. Tina Tasheva since she was a student and PhD student and I believe that she has always been extremely active in the research work of

the department's team. According to my personal observations, she has always shown activity, independence, responsibility and precision in her work. The fact that she was the head of 3 national scientific projects, two of which were completed with a "very good" rating, and one international contract with the Bulgarian Science Research Fund shows her exceptional initiative and independence as a leading researcher and scientist.

The submitted documentation for participation in the competition shows that in 10 publications out of a total of 18, Asst. Prof. Dr. Eng. Tina Tasheva is in first place, and in two of them she is an independent author. In two publications she is in second place and in five publications she is in third place. This is also evidence of the candidate's active participation in scientific research, the preparation and publication of the articles with which she participates in the "Associate Professor" competition.

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.

Asst. Prof. Dr. Eng. Tina Tasheva has an impeccable pedagogical activity at the UCTM. The published textbook is modern and useful and meets the requirements of the Regulations. The candidate's work with students and graduates is at a high professional level.

Asst. Prof. Dr. Eng. Tina Tasheva has participated in the development of the curricula and the delivery of lectures and exercises in several disciplines for bachelors and masters: "Structural Analysis", "Instrumental Analysis of Raw Materials and Products in Silicate Production", "Characterization and Properties of Nanostructures and Nanomaterials", "Materials Science", "Methods for Obtaining Nanoparticles and Nanostructured Materials", "Obtaining and Application of Thin-Layer Nanomaterials", "Characterization and Properties of Building Materials", "Spectroscopy of Refractory Non-Metallic Materials", "Introduction to the Specialty", etc. She has been the supervisor of seven bachelor's and master's theses, which were defended with distinction in the Department of Silicate Technology.

She has worked as a course leader for first-year students and has received excellent feedback from them. She has excellent teamwork skills.

My personal impressions are that when working with students and graduates she shows exceptional attention, concern and patience, which leads to good results and positive feedback from students, as well as attracting new candidate students to the UCTM. Asst. Prof. Dr. Eng. Tina Tasheva has written and published a "Handbook for Structural Analysis", which is modern, written at a very high level and extremely useful for bachelor's and master's students.

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.
I have no critical remarks about the documents and activities of Asst. Prof. Dr. Eng. Tina Tasheva.

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 (80)
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 presented scientific research and pedagogical activity of Asst. Prof. Dr. Eng. Tina Tasheva fully meet and significantly exceed the requirements for holding the academic position of "associate professor" according to the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of this law and the Regulations for the Acquisition of Scientific Degrees and Holding Academic Positions at UCTM.

I have wonderful personal impressions of the candidate as an extremely responsive, precise and responsible person, teacher and scientist. Senior Asst. Prof. Dr. Eng. Tina Tasheva is also recognized by the scientific community in the field of materials science, both in our country and abroad through the large number of citations in prestigious journals.

Therefore, I give my positive assessment and recommend to the esteemed Scientific Jury to award Asst. Prof. Dr. Eng. Tina Tasheva the academic position of "associate professor" in the scientific specialty 5.6. Materials and Materials Science (Silicate Materials), by competition announced by the UCTM in the State Gazette, issue 64/05.08.2025.

01.12.2025 г.	The report was written by:	
date	Prof. Dr. Eng. Anna Diakova Staneva	signature