Appendix 12c

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	D-r	Stella	Ivanova	Georgieva-Kiskinova	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:

101	27.12.2019 г.	Analytical Chemistry	Faculty of chemical technologies
in SG issue	date	for the needs of the Department	Faculty

The review was written by:

Professor	D-r	Irina	Bogdanova	Karadjova	University of Sofia “St. Kliment Ohridski”
academic position	scientific degree	name	middle name	last name	workplace

1. Review for the candidate:

Assistant Professor	D-r	Stella	Ivanova	Georgieva-Kiskinova
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 types of documents required by law and the regulations for its implementation are presented. The documents are accurately prepared. The documents presented are in full compliance with national requirements for the academic position Associated Professor in the professional field of Chemical Sciences, as described in the Rules for the Implementation of the Law on the Development of the Academic Staff of the Republic of Bulgaria. All additional recommendations of the UCTM are fulfilled.

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.
D-r Stella Georgieva-Kiskinova has presented a list of 32 scientific communications (excluding those presented for doctoral degree). Among them, she has selected 28 articles for this contest, 6 of them have been chosen to fulfill the requirements for the habilitation thesis with a total number of 104 points. D-r Georgieva-Kiskinova is a leading first or second author for four of these articles. The main description of these articles is synthesis, structural characterization and potential applications of different materials. D-r Georgieva-Kiskinova is a well experienced professional in a wide range of analytical methods and skillfully combines them to obtain reliable results for materials structure and their quantitative composition. In addition, she has developed new approaches for the application of known analytical methods for the determination of thermodynamic constants. The articles outside of habilitation thesis are 22 with total number of points – 281, significantly above the required 200 points. It is worth to mention a patent proposal as a reflect of potential applicability of research studies. Dr. Georgieva-Kiskinova is a co-author of a chapter in a monograph published by Elsevier. The observed 30 citations of articles satisfy the national requirement for a minimum of 50 points.

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.
The research relevance is undoubted, the doctoral thesis of Eng. Kiskinova is dedicated to a new and actual topic - analytical control of oxygen content in superconducting materials. This topic continues to be in the focus of scientific interests of the candidate. The research development in this direction includes in addition application of different instrumental methods for quantitative characterization and further evaluation of properties of superconducting materials and their potential applications. In reflection of modern scietific trends, new materials have been synthesized, their quantitative composition and structure have been studied through analytical approaches based on known methods, which however have been effectively applied, providing reliable information. The candidate develops analytical methods for the assessment of environmental quality offering new analytical options. The noted citations of the works of d-r Stella Georgieva-Kiskinova, most from the foreign authors, support my opinion about the relevance of the research and the results obtained.

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.
The research of candidate Dr. Georgieva-Kiskinova is focused mainly in the field of modern materials and their characterization. This means diverse studies in different fields which requires serious knowledge of both synthesis and analytical characterization. The review of the publications shows a very good orientation in the scientific issues, a good basis for the formulation of the goals for each conducted study.

1.5. Type of research:

A) Theoretical	4 points	

B) Applied	4 points	
C) Theoretical with application elements	4 points	**X**
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.
Dr. Georgieva-Kiskinova has reached a very good combination of theoretical and applied research. She has almost closed the cycle - from defining and solving a scientific problem to a practical application of the results obtained. Every researcher knows that such conclusions cannot be fulfilled for all conducted studies. Dr. Georgieva-Kiskinova presented both theoretical and applied achievements in terms of characterization of superconducting materials and their application. I consider as a serious contribution the developed approaches for proving the quantitative composition and structure of synthesized materials using electrochemical methods. The application of electrochemical methods for evaluation of the mechanism of redox processes and determination of isoelectric points, ionization constants as well as stability constants of biologically active compounds is also of interest from both scientific and practical point of view. In the applied aspect, possibilities for synthesis of new materials, which are quantitatively and structurally characterized and in addition assessed for practical application are demonstrated.

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.

A number of factors influence and define the goals of a scientist's research, and the final choice depends largely on the researcher abilities and his realistic assessment. Dr. Georgieva-Kiskinova set a realistic and achievable goals, representing in the same time a serious scientific interest. The topic of her dissertation, which she continues to develop, is a such realistic goal, the research in this field deepen and lead to scientific results that are of interest to the scientific community. In-depth research on the application of electrochemical methods for solving problems related to establishing the quantitative composition and structure, evaluating the mechanism of the redox process and determining thermodynamic constants is a realistic goal with successful implementation. The combination of spectrometric methods and electrochemical measurements can be accepted as a developed methodological approach for the characterization of materials and is also an example of defined and achieved scientific goal. Good knowledge of the methods of analytical chemistry leads to solving a real practical problems related to environmental quality control.

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 candidate applies modern methods to solve the defined realistic goals, which evidently leads to obtaining reliable results. Dr. Georgieva-Kiskinova uses a variety of instrumental methods, she demonstrates a good knowledge of their capabilities and possible interferences. This allows her to choose the best combination of methods in order to obtain maximum information from their application. Both in terms of determining oxygen content and in terms of characterizing materials or quantifying components or thermodynamic constants, she finds the method, which is a fit-to-purpose. This is a serious achievement because it represents the modern approach for methodical development in analytics. Among the huge variety of research approaches and instrumental methods to choose the most appropriate or optimal combination that will ensure achievement of maximum and reliable information or research results.

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	**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.
I believe that in the development of every scientist there is research that is essential and leads to obtaining significant scientific contributions and research, that is conducted precisely, but is the answer or a solution of a practical problem. That is why I will note the most significant scientific contributions of the candidate Dr. Georgieva-Kiskinova: - I consider the continuation of research in the field of analytical control of the oxygen content in superconducting materials to be extremely successful. The candidate expands and enriches the analytical methodology and in addition comes to an assessment of the impact of this parameter on the material properties and its potential application. - I consider as a serious achievement and scientific contribution the demonstrated possibilities of the electrochemical methods in characterization of materials. - I consider as an achievement the methodological application of the electrochemical methods for evaluation of the mechanism of redox processes and determination of stability constants and ionization constant of biologically active substances. - Developed methodological approaches for materials characterization and results obtained for their structure and composition are in the field of new knowledge for materials with potential practical application.

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	

B) The candidate has at least an equal participation in most of the submitted papers	7 points	**X**
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.
Undoubtedly, the candidate is a leading participant in the research studies presented. A review of publications shows that it ranks first, second or corresponding author in more than 50% of the publications. Based on the presented materials, including the participation in conferences and in projects, it can be concluded that Dr. Georgieva-Kiskinova is a researcher with her own scientific ideas and approach to perform investigations.

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.

The materials presented for the teaching activity confirmed the fact that Dr. Georgieva-Kiskinova meets the requirements of the UCTM regulations for sufficient pedagogical activity at the university.
Assistant Professor Georgieva-Kiskinova has a serious teaching load. She teaches several lecture courses: "Analytical Chemistry with Instrumental Methods", "Analytical Chemistry", "Instrumental Methods in Analytical Chemistry" for full-time and part-time students for a number of specialties at UCTM. She leads a specialized course in membrane processes for master students. In addition, she actively participates with lecture courses in the specialization "Analytics" - distance and continuing education.

He is a co-author of a published manual "Examples and problems in analytical chemistry. Part II Quantitative Analysis ", Sofia 2013, ISBN: 978-954-465-067-4, Iss. UCTM, Sofia.

He is a co-author of two electronic manuals in Analytical Chemistry, developed under a project for distance education at UCTM, funded by the Operational Program "Human Resources Development"

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	**X**
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
Based on the reviewed materials, I believe that Dr. Georgieva-Kiskinova is a good scientist and a lecturer, who provides high quality education. Dr. Georgieva-Kiskinova indicators cover all the minimum national requirements for the academic position Associated Professor in the professional field of Chemical Sciences, as described in the Rules for the

Implementation of the Law on the Development of the Academic Staff of the Republic of Bulgaria. All additional recommendations of the UCTM are fulfilled and exceeded. On the basis of all the above, I support the application of Assist. Prof. Dr. Eng. Stella Ivanova Georgieva-Kiskinova for the academic position "Associated Professor in professional field 4.2 Chemical sciences (Analytical chemistry) and I will recommend to the Faculty Council of the Faculty of Chemical Technologies of UCTM to award the candidate this academic position.

2. Review for the candidate:

Assistant Professor	D-r	Stella	Ivanova	Georgieva-Kiskinova
academic position	scientific degree	name	middle name	last name

The structure of the review under the previous point 1 shall be respected.

3. Review for the candidate:

Professor	D-r	Irina	Bogdanova	Karadjova
academic position	scientific degree	name	middle name	last name

The structure of the review under the previous point 1 shall be respected.

	The review was written by:	
13.05.2020		**Irina Karadjova**