

REVIEW
to occupy the academic position:

"Professor"	X
"Associate Professor"	
	one of the academic positions indicated shall be marked with the sign "X"

Candidates to occupy the position:

1	Assoc. Prof.	Dr.	Nikolay	Iliev	Georgiev	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:

Technology of fine organic and biochemical synthesis
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The competition has been announced:

23	19.03.2024	Organic synthesis	Faculty of Chemical and Systems Engineering
in SG issue	date	for the needs of the Department	Faculty

The review was written by:

Professor	DSc	Vladimir	Dimtchev	Dimitrov	Institut of Organic Chemistry with Centre of Phytochemistry, BAS
academic position	scientific degree	name	middle name	last name	workplace

1. Review for the candidate:

Assoc. Prof.	Dr.	Nikolay	Iliev	Georgiev
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.

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.
<p>Assoc. Prof. Nikolay Georgiev submitted 29 publications in journals that are referenced in the databases "Scopus" or "Web of Science" in the competition for the academic position of "professor", of which 1 article is published in Bulgarian scientific journal.</p> <p>In the competition, Assoc. Prof. Nikolay Georgiev is the only candidate and presents himself with the following indicators:</p> <p>Indicator 1 – 50 pts. Indicator 3 or 4 – 177 pts. (required minimum 100 points) Indicators 5 to 11 – 226 pts. (required minimum 200 points) Indicators 12 to 14 – 350 pts. (required minimum 100 points) Indicators 15 and 16 – 40 pts. Indicators 17 to 21 – 30 pts. Indicators 23 to 26 – 80 pts. Total number: 953 (exceeds required minimum).</p> <p>Associate Professor Nikolay Georgiev participate in the competition with 29 publications, referenced and indexed in international databases. Publications 1 to 10 are presented as the equivalent of a thesis (indicator 4). The remaining publications meet the criteria of indicators 5 to 11. In total, the publications can be arranged as follows: 12 pcs. – Q1, 11 pcs. – Q2, 5 pcs. – Q3, 1 pc. – Q4 (according to SCIMAGO in the year of publication of the article in the respective journal). In total, the scientific publications presented in the competition have been cited by other authors 429 times (according to SCOPUS as of the date of this review).</p> <p>Associate Professor Georgiev presented a list of 47 diploma students supervised by him, as well as data of one doctoral student. A list of 10 lecture courses conducted by him is presented. Data on published teaching booklet and registered patent are also presented (indicators 23 to 26).</p>

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.

Assoc. Prof. Georgiev's research activity is focused on the synthesis of functionalized organic compounds possessing fluorescent properties and possible applications as molecular sensors and elements of molecular electronics. The relevance of the developments is demonstrated by the practical orientation of the results to biology and medicine. Associate Professor Georgiev has successfully arranged his main scientific results in the following 3 groups: 1. Synthesis and research of new multichromophore systems for energy transfer at the molecular level; 2. Synthesis and research of new fluorescent molecular sensors; 3. Synthesis and research of new molecular logic devices and facilities. In his research, Assoc. Prof. Georgiev demonstrate skills in the design and implementation of the synthesis of new organic structures with previously considered properties and possible applications.

The relevance of the obtained results is evident from the numerous citations of Prof. Georgiev's articles in the international scientific literature.

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.

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.

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 goals that Prof. Georgiev sets for himself are scientific in nature, aimed at specific applications. They are in the thematic area of the competition and are realistically placed. Results have been achieved, both in the field of synthesis of new multifunctional organic compounds, but also in materials science in the search for structures with certain properties aimed at applications.

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.
Research methods correspond to the set goals. Associate Professor Georgiev applies modern approaches for organic synthesis and physicochemical characterization of the properties of the

obtained compounds (e.g. NMR and IR spectroscopy, etc.). The fluorescence properties of the synthesized compounds and their dependence on the structure are especially thoroughly studied. Dynamic phenomena with charge transfer are studied, which are the basis of designing organic structures with pre-defined properties.

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.

The contributions to the scientific activity of Prof. Georgiev, within the framework of the materials presented in the competition, can be formulated as follows:

- Multifunctional compounds containing 1,8-naphthalimide structural fragments have been synthesized, by means of which energy transfer is modulated and the properties of molecular rotors and switches are aimed at;
- Organic compounds possessing the properties of fluorescent sensors (to detect metal ions or organic pollutants harmful to the environment) have been synthesized;
- From the idea of synthesis of organic devices and switches, Associate Professor Georgiev logically turns to studying the possibilities of applying such compounds as molecular logic devices. The generally interrelated lines of research listed are of substantial applied interest.

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.

Associate Professor Georgiev is a corresponding author in three of the publications presented in the competition. Obviously, his participation in the presented research and the achieved results is equal to that of the other co-authors. It should be noted that to a significant extent the scientific topic was developed by Prof. Vladimir Bozhinov, under whose leadership the candidate began his scientific career and developed further this scientific field.

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.

Associate Professor Georgiev has an active pedagogical practice (lecture courses, supervision of graduates and doctoral students); study materials issued.

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.

The citations are presented as a number in the list of publications with which the candidate participated in the competition. This does not make it possible to trace the sources of the citations (i.e. the articles of the foreign authors citing the candidate).
 In appendix 6b (file "pril_6b_Zitati"), there is probably an error - 35 articles are presented in the column "scientific work where the candidate's publication is cited", where the name of the journal is missing. In addition, in the column "No. of the publication (from the list of the applicant's publications) that is cited" is noted article No. 8, which was actually cited only 3 times by foreign authors (according to SCOPUS).

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 92 points
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 materials presented by Associate Professor Nikolay Georgiev, with which he participate in the competition, meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and exceed the requirements set out in the rules (PPNSZAD) of the UCTM for holding the academic position of "Professor". This gives me reason to propose that Associate Professor Nikolay Iliiev Georgiev, PhD, be elected to the academic position of "Professor".

	The review was written by:	
Date 27.07.2024		signature