

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	Senior Assistant	PhD	Kalin	Simeonov	Krumov	UCTM - Sofia
No	academic position	scientific degree	name	middle name	last name	workplace

Scientific area:

5.	Technical sciences
code	name

Professional area:

5.4.	Power engineering
code	name

Scientific specialty:

Industrial thermal engineering

The competition has been announced:

67	04.08.2023	Technology of Silicats	Metallurgy and Material Science
in SG issue	date	for the needs of the Department	Faculty

The report was written by:

Prof.	PhD	Toty	Ivanov	Totev	Trakia University – Stara Zagora
academic position	scientific degree	name	middle name	last name	workplace

1. Report for the candidate:

Senior Assistant	PhD	Kalin	Simeonov	Krumov
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.

As a ground for my assessment, I present a summary of some of the most important results of the candidate's work:

Results of the candidate's research have been published in 43 papers, including:

- 17 printed publications in journals that are refereed and indexed in world-renowned databases of scientific information. Ten (10) of these are presented as "Habilitation thesis", in the form of scientific publications in journals that are refereed and indexed in world-known databases of scientific information";
- 25 publications in Bulgarian and international peer-reviewed journals and edited collective volumes;
- Co-authorship in the publication of one textbook - "Manual for the design of thermal aggregates and equipment in the silicate industry";
- 11 scientific articles have been noticed by the scientific community and cited in 30 scientific journals, refereed and indexed in world-renowned databases of scientific information or in non-refereed peer-reviewed journals.

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.

Whenever certain studies are related to the assessment of "energy and technological efficiency", they are referred to the category of relevant, since such studies provide a direction of development, point out opportunities for the development of a technological process and optimization of the energy footprint on this process. The majority of the candidate's research is exactly that. Secondly, I would point out the researches of Senior Assistant Krumov related to the utilization of solar energy and the environmental aspects of solid rocket fuels. Harnessing energy from the sun (as part of renewable natural energy) is an issue that is relevant to all of humanity today. A considerable part of the candidate's research is in the field of ecology (another key research area), albeit for a very specific subject - "solid rocket fuels and biodegradable composites for aeronautical components". All this factual analysis gives me a reason to classify the research of Senior Assistant Dr. Eng. Kalin Krumov as extremely relevant, notable and important.

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

In the main part of the researches of Senior Assistant Krumov concern specific technological processes and objects from our industry. This fact makes them realistic and pragmatic. Furthermore, they are characterized by an in-depth scientific approach, which also requires the application of advanced research methods, such as mathematical modelling, which the candidate demonstrates in their research. Joint publications with experts from practice prove the applied nature of the research, which obviously leads to its practical application. The candidate's participation in research activities funded by the National Science Foundation also demonstrates his very good scientific background. In conclusion, I would like to summarize that the goals set by Senior Assistant Kalin Krumov, are related to research of real technological processes, applying scientifically based means and approaches. The accumulated experience from the conducted research has contributed to the development of Senior Assistant Kalin Krumov as an accomplished researcher and lecturer, making him a valuable participant in the training of students in a number of disciplines at UCTM.

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.

Having acquainted myself in detail with the candidate's research over the last 13 years, as well as with the results that he presents in his publications, I could attribute them to the category of scientific and applicable ones. Some of them (those in Theme 1 - "Improvement of heat transfer in high-temperature chamber furnaces for ceramic firing" are a continuation of his research in his dissertation. The continuity and joint work with his scientific supervisor Prof. Dr. Eng. N. Penkova is present and obvious. This continuity is also evident from a number of their other general studies, such as those related to numerical, simulation modelling of technological processes, etc., which guarantee quality and relevance.

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

After examining the materials submitted by the candidate for the competition, with his pedagogical and scientific activity, with the significance of his scientific works and contributions, I believe that they meet the requirements of the Law and the Regulations at UCTM, and I find it justified to propose Senior Assistant Kalin Simeonov Krumov to occupy the academic position of "Associate Professor" in the professional area 5.4 "Power Engineering", scientific specialty "Industrial Thermal Engineering".

20.11.2023	The report was written by:	
date		signature