

**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
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**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:**

Associate Prof.	PhD	Borislav	Mitkov	Ignatov	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.

The candidate, Senior Assistant Dr. Eng. Kalin Simeonov Krumov, not only satisfies but also exceeds the minimum requirements. His publishing activity includes 43 works, which have been printed in various journals as follows:

- ◆ 17 publications have been printed in journals that have been refereed and indexed in world-renowned databases of scientific information. 10 of them 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.		
The research activity of the candidate includes research in the following areas:		
<ul style="list-style-type: none"> <li>◆ multiphysics processes, energy and technological efficiency of industrial furnaces, dryers and equipment;</li> <li>◆ heat transfer and hydrodynamic processes in ventilation of industrial buildings;</li> <li>◆ heat transfer, heat load and passive solar energy recovery in modern transparent building enclosures;</li> <li>◆ development of environmentally friendly solid propellants and biodegradable composites for civil aerospace components.</li> </ul>		
<p>All this research is relevant because the optimal use of energy and energy efficiency are always a relevant topic for human civilization. In addition, the development of greener energy technologies is also essential for everyone's working and living conditions. Therefore, I believe that the scientific research activity of the candidate Senior Assistant Dr. Eng. Kalin Simeonov Krumov is extremely relevant.</p>		

**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		
<p>The main part of the candidate's research is related to the processes of firing and drying of ceramics. They are related to the optimization of combustion systems of high-temperature kilns for firing ceramics. The use of CFD modelling in solving specific problems shows that Senior Assistant Dr. Eng. Kalin Simeonov Krumov use a thorough scientific approach in solving them. Some of his research has been co-authored with practitioners, which means that his research also has a practical focus. In addition, the candidate has participated in or supervised contracts funded by the National Science Foundation, which demonstrates his high scientific training. The experience gained from the researches conducted by Senior Assistant Dr. Eng. Kalin Simeonov Krumov has helped to establish him as a fully accomplished scientific researcher and lecturer.</p>		

**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.

The publications with which the candidate applies are all written within the last 13 years. They represent a natural continuation of his PhD thesis. Furthermore, he continues his collaborative work with his scientific supervisor Prof. Dr. Eng. N. Penkova, which speaks of a continuity, which is a guarantee of the high quality and significance of his scientific work.

### 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"
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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 <b>POSITIVE</b>	This evaluation is assigned to a total number of at least 50 points	X
B) The evaluation of the candidate's activity is <b>NEGATIVE</b>	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
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The volume and quality of the scientific production presented by the candidate and his pedagogical activity meet the criteria and requirements of the Law and the Regulations for occupying the position of Associate Professor.

On the basis of the examination of the presented scientific works, their significance, the scientific and applied contributions contained in them, I find it justified to propose **Senior Assistant Kalin Simeonov Krumov to take** the position of "**Associate Professor**" in the professional area **5.4. "Power Engineering"**, scientific specialty "**Industrial Thermal Engineering**".

<b>20.11.2023</b>	The report was written by:	
date		signature