

REPORT

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.	PhD	Dimitar	Petrov	Donchev	UCTM
№	academic position	scientific degree	name	middle name	last name	workplace

Scientific area:

5	Technical Science
code	name

Professional area:

5.1	Mechanical Engineering
code	name

Scientific specialty:

Applied Mechanics

The competition has been announced:

67	13.08.2021	Applied Mechanics	FMM
in SG issue	date	for the needs of the Department	Faculty

The report was written by:

professor	DSc, PhD	Georgi	Dimitrov	Todorov	TU Sofia
academic position	scientific degree	name	middle name	last name	workplace

1. Report for the candidate:

ASSOC. PROF.	PhD	Dimitar	Petrov	Donchev
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.

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	
B) Research is relevant. Results from other authors are known for each of the topics and / or applications studied.	6 points	X
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 author has not presented works with elements of significant novelty (pioneering solutions), nor have patents / utility models been presented to justify the existence of such solutions.

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 presented researches is actual and adequate as a scientific and applied topics. Proof of this are the huge number of studies in these areas and their applications.
The goals set by the candidate lead to the real contribution of scientific knowledge in the research field, as well as to their application in training and practice.

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 main Autor Contributions can be identified as:

- Pointed out the reason for the breach of durability related to presence of initial imperfections, development of defects associated with creep (may be partially reversible), and finally with emergence and development of a highway crack.
- Based on the criterion of critical defect concentration (cracks) predict durability worked out.
- The structure of a composite material is precisely determined by random distribution of inclusions in subsequent homogenization.
- Creation of new classifications, methods and constructions for research of the defects of structural elements and building constructions from composite materials, etc.

- Obtaining new and confirming existing results through new methods in the field of strengthening building elements by reinforcing them with known and new materials, incl. those of organic origin.

The following contributions may be considered in applied field :

- Study of the behavior of reinforced concrete structures and structures strengthened/corrected through the application of various systems of composite materials leads to the creation of basis for behavior prediction through modeling and experimental validation;
 - In the field of industrial application - "reproduction of properties" and "durability of used materials " leads to the creation of structures without resizing by improving their crack resistance.

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	
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.

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.
There is evidences for 4 finished doctoral students in co-supervising.

1.7. 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.
I recommend the candidate to continue the research and to collect it in a monograph, which would give wider access to researchers and specialists from the practice of the research results.

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

Based on the Application Papers and the indicated and accepted contributions, I believe that it meets the requirements for the academic position.

This gives me grounds to propose to the esteemed scientific jury to award the academic position of "professor" in the field of higher education: 5. Technical sciences, professional field: 5.1. Mechanical Engineering, specialty "Applied Mechanics" of Assoc. Prof. Dr. Eng. Dimitar Petrov Donchev.

22.11.2021	The report was written by:	
date		signature