

STANDPOINT

for the competition for an academic position of "Associate Professor" in the field of 5.1 Mechanical Engineering, academic discipline "**Material Science and Technology of Materials**" at the Department of "Materials Science and Technology of Materials" at MTF of TU-Varna.
announced in the Official Gazette No. 2 of January 5, 2024

Candidate: **Asist. Prof. Dr. Eng. Daniela Todorova Spasova**

Member of the scientific jury: **Assoc. Prof. Dr. Eng. Diyan Minkov Dimitrov**

1. General characteristics of the candidate's research and applied scientific activity.

For participation in the competition, a total of 30 scientific works were submitted. Among them are 11 scientific publications in editions that are peer-reviewed and indexed in globally renowned databases with scientific information (Scopus, Web of Science), and 19 scientific publications in non-peer-reviewed journals or edited proceedings volumes. Ten publications from the first group are considered equivalent to a monographic work on the topic: "Study of materials and technologies applicable to facilities in the maritime and mining industry." The candidate is the first author in 7 of these publications. The research and applied scientific activity of the candidate is mainly focused in the following directions:

- Conducting research on technologies for the production of composite materials with metal and polymer matrix and evaluation of their microstructure and mechanical properties;
- Development of new and improvement of existing methods and technologies for making foundry molds and obtaining complex non-technological castings;
- Increasing the strength and mechanical characteristics of structural materials through additional applied technological processes.

The candidate has participated in 9 scientific and one infrastructure project with internal university funding, as well as 3 projects with external funding. He has been the leader of one of the projects with internal university funding. As a result of the project implementation, a significant part of the publications, as well as the candidate's participation in the renewal and modernization of the laboratory base of the department, have been achieved.

I believe that the candidate's research and applied scientific activity are in the field of the announced competition, using modern methods and means to solve the problems set and achieve the respective goals.

2. Evaluation of the pedagogical training and activity of the candidate.

Asist. Prof. Dr. Eng. Daniela Todorova Spasova has held this academic position since 2013 to the present moment. During this period, she regularly conducts lectures, seminars, and laboratory exercises for Bachelor's and Master's degree students in both full-time and part-time programs in disciplines such as "Materials Science and Technology of Materials," "Metal Casting," and others related to foundry technology. She has also participated in the development of 7 educational programs for the respective disciplines. As a research advisor, she has supervised 11 diploma theses, 7 for Bachelor's degree students and 4 for Master's degree students. According to the provided reference for the last 3 academic years, she has conducted 300 hours of lectures and 1190 hours of seminars and laboratory exercises. From 2016 to 2023, she has completed 12 mobilities under the Erasmus+ program at universities in the Czech Republic, Greece, Cyprus, Spain, and Romania.

I believe that the candidate possesses a very high level of pedagogical training and conducts successful pedagogical activities that are fully in line with the requirements of the academic position of "Associate Professor."

3. Main scientific and scientifically-applied contributions.

Regarding the first group of publications, equivalent to a monographic work, there are 5 scientific-applied and 3 applied contributions, which can be classified into the following groups: - creation of new classifications, methods, constructions, technologies for obtaining and studying composite materials with metal and polymer matrix; - demonstration with new means of significant new aspects of already existing scientific areas, problems, theories, hypotheses regarding MMCs with a metal reinforcing phase and established interaction of the liquid metal matrix with the reinforcing phase; - obtaining confirmatory facts regarding the causes of failure of materials used in the mechanical engineering and mining industries, as well as the development of cracks under cyclic loading.

In the second group of publications, there are 13 scientific-applied and 8 applied contributions related to the theme of the competition.

I acknowledge the candidate's contributions and consider that a large part of them are his own work or obtained with his decisive participation.

The citation reference indicates 10 citations in publications referenced and indexed in globally renowned databases, for 4 of the publications, showing that the candidate's work is well-received in the scientific community.

4. Significance of Contributions to Science and Practice.

The presented scientific research contains contributions that enrich both theory and practice, as they are in the current field of "New Materials and Technologies" and address issues related to obtaining composite materials with a metal matrix through foundry technologies, obtaining and studying composite materials with a polymer matrix, as well as investigating the causes of failure of materials used in the mechanical engineering and mining industries. The results of the scientific research are presented to specialized audiences at various scientific conferences and in open-access scientific journals. The documents submitted for participation in the competition adhere to the quantitative indicators of the criteria for occupying the academic position of "Associate Professor," with the required points for group "D" (citations) significantly exceeded. Dr. D. Spasova is a recognized specialist and enjoys authority among colleagues working in the field of materials science and technology.

5. Critical Notes and Recommendations.

I have no fundamental critical notes regarding the contributions listed. However, I encountered some terminological inaccuracies in the publications in English, which would be beneficial to correct in the candidate's future work. Since the candidate works in a priority area, I recommend seeking opportunities to participate as a member or leader of research projects with external funding.

CONCLUSION

Based on the review of the presented scientific works, their significance, and the scientific, scientifically-applied, and applied contributions contained therein, I fully believe that the candidate meets the requirements of the Law on Internal Development and the Regulations of the Technical University of Varna for the development of the academic staff for obtaining the academic position of „**Associate Professor**“. Therefore, I find it justified to propose to the esteemed members of the Scientific Jury to support **Asist. Prof. Dr. Daniela Todorova Spasova** to occupy the academic position of "**Associate Professor**" in the field of Mechanical Engineering, academic discipline "Materials Science and Technology of Materials."

Date: 26.04.2024.

Member of the J

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