STATEMENT

by Assoc. Prof. Lyubomira Valentinova Veleva, PhD
Konstantin Preslavsky University of Shumen

on the materials submitted for participation in the competition for the academic position of Associate Professor in the field of higher education
5. Technical Sciences, professional field 5.13. General Engineering
specialty Engineering Physics

Chief Assistant Professor Daniela Gospodinova Nedeva, PhD, is a candidate in the competition for Associate Professor announced in the State Gazette, Issue 53 of 9 June 2026, and on the website of the Technical University of Gabrovo, for the needs of the Department of Mathematics, Informatics and Natural Sciences at the Faculty of Economics.

1. Overview of the content and results of the submitted works

The candidate submits 34 scientific publications, including 4 single-authored papers, 3 papers in journals with an impact factor (Web of Science), and 1 paper in an SJR-ranked publication (Scopus), as well as the habilitation monograph Integrated Scientific and Engineering Approaches to Environmental Processes and Material Systems (2026). The works cover radioecological monitoring, laser and electron beam processing, thermomechanical modification of polymers, and thermoluminescent materials. Their common basis is the investigation of the relationships between physical processes, structure, properties, and engineering applications.

The monograph brings together studies of radionuclide migration and accumulation in natural environments and findings on materials processing using concentrated energy fluxes. I assess positively the combination of experimental measurements, physical modelling, and comparative analysis. The research relates to the subject of the competition through the physical methods employed and its focus on solving engineering and environmental problems.

2. General assessment of the candidate's activities

2.1. Teaching activities

Daniela Nedeva has worked as an Assistant Professor at the Technical University of Gabrovo since 2009 and has held the position of Chief Assistant Professor since November 2017. She delivers lectures and practical classes in Professional Bachelor's, Bachelor's, and Master's degree programmes. The courses she teaches include Physics, Vibration Analysis and Noise Protection, Air Purification Techniques, Management of Specific Waste Streams, and Environmental Radiological Monitoring. This range demonstrates a connection between fundamental education in physics and specialised engineering training.

She is a co-author of the textbook Engineering Physics (2025) and the Practical Guide to Physics (2024). The guide contains 19 experimental exercises and supports the development of skills in measurement, data processing, and analysis of results. These teaching publications are directly relevant to the competition and provide methodological support for her teaching.

2.2. Scientific and applied research activities

The candidate's research is characterised by consistent participation in collaborative studies and the development of an independent publication record. Information has been submitted on participation in university, national, and international initiatives, as well as on the leadership of three projects in 2024–2026. Their topics relate to environmental protection, smart and energy-saving technologies, and sustainable industry. According to the submitted statements on compliance with the minimum national requirements and Appendix 2.4, the candidate has obtained the following points in the mandatory groups of indicators:

Group	Description	Minimum	Candidate
A	Dissertation for the educational and scientific degree of Doctor	50	50
B	Habilitation work — monograph	100	100
Г	Scientific publications	200	254.44
Д	Citations	50	130
Total	Mandatory groups	400	534.44

In Group Г, 55.86 points are reported for the four refereed and indexed publications and 198.58 points for papers in non-indexed publications subject to scientific peer review. In Group Д, 120 points are reported under Indicator 12 and 10 points under Indicator 14. The total exceeds the sum of the mandatory minimum scores by 134.44 points; it is essential that the requirement is met in each individual group. Therefore, the submitted data meet the minimum national requirements under the Act on the Development of the Academic Staff, as applied in the procedures and reporting to the National Centre for Information and Documentation (NACID).

According to Appendix 2.5 and the submitted statement, the candidate meets the additional requirements of the Technical University of Gabrovo. She participates in the competition with 34 publications against a required minimum of 15, including 4 single-authored papers against a minimum of 4. She submits 3 papers in journals with an impact factor and 1 paper in an SJR-ranked publication, against a requirement for at least one publication with an impact factor or SJR ranking. There are 17 citations by other authors against a minimum of 5. The requirements for published teaching materials are also met through one textbook and one teaching guide. Thus, all additional quantitative criteria of the university are met, with the number of publications, papers in publications with an impact factor or SJR ranking, and citations exceeding the respective minimum values.

2.3. Implementation activities

The practical focus is evident in the development of surface modification regimes, the selection of laser welding parameters, and approaches to radioecological monitoring. These results provide a basis for technological applications. The submitted materials do not justify claiming separately documented industrial implementation; I assess them as applied research developments with potential for practical use.

3. Contributions and significance for science and practice

In radioecology, the contributions include findings on the distribution, accumulation, and transfer of natural and anthropogenic radionuclides in soils, plants, and other natural samples. The influence of plant species and environmental conditions on bioavailability has been analysed. These studies expand the experimental basis for regional monitoring and for the use of plants as bioindicators.

In electron beam modification, relationships have been established between processing parameters, phase composition, and the mechanical characteristics of Ti/TiC and Ti–B layers. For Ti/TiC, a microhardness of approximately 510 HV and an increase of about 2.5 times relative to the titanium substrate are reported. For Ti–B, values of up to approximately 4540 HV0.2 and a coefficient of friction of about 0.34 have been obtained. These results support the potential for improving the surface properties of titanium components.

The modelling and numerical estimates of power density in laser welding of electrical steel have applied research value. Additional contributions include experimental relationships established during the thermomechanical processing of PET fibres and the characterisation of thermoluminescent materials. I assess the contributions primarily as the acquisition and analysis of new experimental data, the enrichment of existing knowledge, and the application of physical methods to specific engineering problems.

4. Assessment of the candidate's personal contribution

The single-authored monograph and four single-authored publications provide a basis for assessing the candidate's ability to formulate and investigate scientific problems independently. The co-authored works demonstrate participation in interdisciplinary teams.

5. Critical comments and recommendations

I have no substantial scientific objections that would alter my positive assessment. I recommend a continued focus on increasing the number of publications in international refereed journals.

6. Personal impressions

The submitted materials outline the profile of a teacher and researcher with consistent professional development and active involvement in applied problems. I assess positively the connection between research and teaching, as well as the candidate's participation in research teams and projects. My overall impression from the documentation reviewed is of sound professional preparation and a capacity for further academic development.

7. Conclusion

In view of the above, I propose that Chief Assistant Professor Daniela Gospodinova Nedeva, PhD, be elected to the academic position of Associate Professor in the field of higher education 5. Technical Sciences, professional field 5.13. General Engineering, specialty Engineering Physics.

29.10. 2026 **Jury member: Assoc. Prof. L. V. Veleva, PhD**

/...../