POSITION

of Professor Dr. MEng. Lidia Petrova Galabova, Technical University of Sofia

based on competitive selection procedure materials submitted for awarding the academic rank of "Associate Professor"

higher education field – 5. Technical Sciences
professional field 5.13 "General Engineering"
scientific discipline – Engineering Physics

In the competitive selection procedure for Associate Professor, announced in the State Gazette No. 53 of June 9, 2026, and on the website of the Technical University – Gabrovo, for the needs of the Department of Mathematics, Informatics and Natural Sciences, Faculty of Economics, the sole candidate is Chief Assistant Professor Dr. Daniela Gospodinova Nedeva.

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

For participation in the competitive selection procedure, Chief Assistant Prof. Dr. Daniela Nedeva has presented a monograph (Integrated Scientific and Engineering Approaches to Environmental Processes and Material Systems, 2026), 34 scientific publications, one university textbook (Engineering Physics, 2025), and one study guide (Practical Guide to Physics, 2024). Overall, the research topics correspond to the scientific discipline of the announced competitive selection procedure.

Evidence has been presented for 17 citations by international authors, 12 of which are in scientific publications referenced and indexed in internationally recognised databases (Web of Science/Scopus).

The candidate's scientific works reflect consistent research activities in several main thematic areas:

- Radioecological Monitoring and Radionuclide Migration: Systematic studies on the distribution of natural and anthropogenic radionuclides in soils, surface waters, sand and plant samples (including medicinal herbs). Transfer factors have been determined, and spatial geostatistical maps have been developed for Shumen Plateau Nature Park and the Black Sea coast.

- Surface Treatment Using High-Energy Beams: Investigation of the physical principles of electron-beam alloying and surface modification of titanium with carbon and boron, as well as physical and mathematical modelling of energy balance and thermal regimes in laser welding of electrical steels.

- Thermomechanics and Structural Transitions in Polymers: Application of differential scanning calorimetry (DSC) to analyse phase transitions, glass transition, cold crystallisation and melting in semicrystalline PET filaments under controlled isothermal conditions and mechanical loading.

- Dosimetry and Optical Properties of Luminescent Materials: Investigation of trap kinetic parameters and the thermoluminescent response of doped oxide systems (including BGO:V) for the detection of UV and ionising radiation.

The documents submitted comply with the requirements of the Academic Staff Development Act, its implementing regulations, and the internal rules of TU – Gabrovo. The number of publications exceeds the required minimum. The competitive selection procedure has been correctly followed.

2. General characteristics of the candidate's activity

2.1. Teaching and pedagogical activity

Dr. Daniela Nedeva has over 16 years of teaching experience at TU – Gabrovo. She delivers lectures and conducts laboratory classes in key disciplines at Bachelor's, Professional Bachelor's and Master's degree levels, including Physics, Vibration Analysis and Noise Protection, Air Purification Techniques, Environmental Radiological Monitoring, among others.

Her teaching and curriculum development activities include the preparation of four curricula, the publication of one textbook and one study guide, as well as seven publications on physics teaching methodology.

She has successfully supervised four Master's degree students in the preparation of their graduation theses and has prepared numerous students for participation in scientific forums.

2.2. Research and applied scientific activity

Dr. Daniela Nedeva has established herself within the academic community as a respected lecturer and an active researcher, whose extensive scientific output is characterised by its interdisciplinary nature.

She has participated in 36 research and educational projects. Her research reputation and organisational capacity are further demonstrated by her role as project leader of three research projects funded by TU – Gabrovo during the period 2024–2026.

2.3. Implementation

The scientific results of the candidate are successfully applied in teaching and research projects. Her applied research contributions also demonstrate potential for practical implementation in industrial enterprises.

The practical significance of her research is reflected in the development of optimal processing parameters for electron-beam surface hardening of titanium components (with applications in mechanical engineering and biomedicine), theoretical calculations for laser welding in electrical engineering manufacturing, and methodologies for radioecological geostatistical monitoring of recreational areas.

3. Contributions (scientific, scientific-applied, and practical) and their research and practical significance

I accept the scientific, scientific-applied, and practical contributions declared by the candidate and consider them well-founded. They are the personal work of the candidate and are presented in her scientific publications. They are accurately described in the candidate's statement of scientific contributions.

4. Evaluation of the candidate's personal contribution

The submitted supporting documents and scientific publications demonstrate that Dr. Daniela Nedeva has played a leading role in conducting experiments, processing data, and formulating conclusions.

The independently authored monograph and single-author articles confirm her personal scientific contribution and her ability to conduct independent scientific research.

5. Critical comments and recommendations

I have no critical comments regarding the submitted materials.

I recommend that Dr. Nedeva focus her future publication activities primarily on high-ranking international scientific journals (Q1/Q2 in Web of Science/Scopus) and direct further efforts towards attracting and supervising doctoral students.

6. Personal impressions

The candidate for the academic position of Associate Professor, Dr. Daniela Nedeva, possesses the necessary qualifications and professional competence required for holding this academic position.

7. Conclusion

The materials submitted for the competitive selection procedure, the scientific contributions, and the scientometric indicators fully comply with the requirements of the Academic Staff Development Act, its implementing regulations, and the internal rules of TU – Gabrovo concerning the academic position of Associate Professor.

The above gives me grounds to recommend that Chief Assistant Prof. Dr. Daniela Gospodinova Nedeva be awarded the academic rank of “Associate Professor” in higher education field 5. Technical Sciences, professional field 5.13 “General Engineering”, scientific discipline – Engineering Physics.

27.10.2026

Member of the Scientific Jury: /signed/
Prof. Dr. Eng. Lidia Petrova Galabova