O P I N I O N

on the competition for the academic position of "PROFESSOR" in
5. Engineering Sciences, 5.7. Architecture, Civil Engineering and Geodesy (Construction Materials, Products and Their Manufacturing Technologies)
announced in State Gazette No. 69 of 31 July 2026
Candidate: Assoc. Prof. Rositsa Veselinova Petkova-Slipets, PhD, Eng.

Member of the Scientific Jury: **Prof. Angel Kostadinov Terziev, PhD, Eng**.
(Technical University of Sofia, Faculty of Power Engineering and Power Machines)

The sole candidate in the competition for the academic position of Professor, announced in State Gazette No. 69 of 31 July 2026 for the needs of Varna Free University "Chernorizets Hrabar", is Assoc. Prof. Rositsa Veselinova Petkova-Slipets, PhD, Eng.

1. General overview of the candidate and the submitted application materials

The sole candidate, Assoc. Prof. Rositsa Veselinova Petkova-Slipets, PhD, Eng., graduated from the Technical University of Varna in 1999 with a Master's degree in Engineering, specializing in Metal Technology and Metalworking Equipment. In 2004, she obtained the educational and scientific degree of Doctor (PhD) in Materials Science and Technology of Engineering Materials. Since 2006, she has been engaged in teaching and research at Varna Free University "Chernorizets Hrabar", successively holding the academic positions of Assistant Professor, Chief Assistant Professor and, since 2011, Associate Professor. She has served as Dean of the Faculty of Architecture since 2020.

For the competition, the candidate has submitted a habilitation thesis in the form of a monograph entitled "***Structure of Materials: Hierarchical Levels, Investigation Methods and Relationships with Properties***" (2026), as well as 23 scientific publications. Of these, 12 are declared as refereed and indexed in Scopus, six appear in publications included in the National Reference List maintained by NACID, and five in other peer-reviewed scientific publications. The submitted research addresses the structure, mechanical and thermophysical properties of construction and other engineering materials, including lightweight concrete, composites and thermal insulation materials.

The application materials also include the textbook "Construction Materials" in two editions (2009 and 2026), four additional publications, two student papers, and documentation of project, expert, teaching and international academic activities. Information is also provided on the supervision of five doctoral students, one of whom has successfully defended a dissertation, while three are continuing their studies.

2. Assessment of compliance with regulatory requirements

Based on the documents submitted by the candidate and the verification of the scientometric indicators, I conclude that Assoc. Prof. Rositsa Petkova-Slipets meets the minimum national requirements for the academic position of Professor in professional field 5.7, Architecture, Civil Engineering and Geodesy, and significantly exceeds them in several groups of indicators.

Under indicator group A, the candidate presents a diploma for the educational and scientific degree of Doctor (PhD) awarded by the Technical University of Varna. Her dissertation, entitled "Theoretical and Experimental Investigation of Carbide, Nitride and Carbonitride Phases of Certain Transition Metals", was successfully defended in 2004. The submitted documents demonstrate compliance with the minimum national requirements for group A: 50 points awarded against 50 required.

	Candidate	Required
Points under indicator A	50 points	50 points

Under indicator group B, the candidate presents a habilitation monograph entitled “Structure of Materials: Hierarchical Levels, Investigation Methods and Relationships with Properties”, published in 2026 by Varna Free University “Chernorizets Hrabar”. The work examines the structure of materials at different hierarchical levels and the relationships between their composition, production technology, structure and properties. It systematizes contemporary structural analysis methods and discusses their application in assessing material quality and performance in service. The monograph has scientific-applied and methodological value and provides a useful foundation for research and engineering applications in materials science.

	Candidate	Required
Points under indicator B	100 points	100 points

Under indicator group G, the candidate submits scientific publications in refereed and indexed journals and proceedings, as well as other peer-reviewed scientific outlets. The publications are relevant to the subject of the competition and present scientific and applied research on the structure, physical-mechanical and thermophysical properties of construction and metallic materials, including lightweight concrete, environmentally friendly construction materials and composites. I accept the submitted works for evaluation.

The verification identified an inaccuracy in the declared number of co-authors of one publication, requiring an adjustment to the points awarded. Accordingly, I recognize 266.66 points instead of the declared 267.99 points, against a minimum requirement of 200 points. Despite this adjustment, the candidate exceeds the minimum national requirement for this indicator by approximately 33%.

	Candidate	Required
Points under indicator G	266.66 points	200 points

Under indicator group D, the candidate declares 658 citation points. Additional verification in Scopus confirmed 45 citations of six publications and a further 12 citations of the publication “Thermal Insulating Properties of Straw-Filled Environmentally Friendly Building Materials” (2017). Four declared citations of the latter publication could not be verified and were excluded from the adjusted assessment. Including accepted citations in monographs, edited volumes and other scientific publications, the total for this group is 628 points against a minimum of 100 points, exceeding the requirement more than sixfold.

	Candidate	Required
Points under indicator D	628 points	100 points

Under indicator group E, credit is given for the supervision of one doctoral student who successfully defended a dissertation; participation in national and international research and educational projects; coordination of two national projects; external funding attracted; and two editions of the university textbook “Construction Materials” (2009 and 2026). The submitted documentation supports recognition of the declared 475 points against a minimum requirement of 150 points.

	Candidate	Required
Points under indicator E	475 points	150 points

Following verification and the adjustments made, the candidate’s total recognized score across all indicator groups is 1,519.66 points against a minimum requirement of 600 points. This exceeds the minimum national requirements by more than 2.5 times, with particularly substantial margins in groups G, D and E.

3. General characteristics and assessment of the research output and scientific contributions

The research output submitted by Assoc. Prof. Rositsa Petkova-Slipets is directly relevant to the competition and covers materials science, construction materials and their thermophysical characteristics. Particular emphasis is placed on the relationships between material composition, structure, production technology and performance properties.

Of the 23 submitted scientific publications, two are single-authored and the candidate is first author of another eight. Thus, she is sole or first author of 10 publications, representing 43.5% of the total. She is also the sole author of the submitted habilitation monograph.

The habilitation monograph systematizes contemporary methods for structural analysis of materials at different hierarchical levels and discusses their combined application. In my assessment, the monograph's contribution is primarily methodological and scientific-applied.

The scientific publications present specific experimental findings on the influence of composition and structure on the thermophysical properties of various construction materials. The effects of the type, size and concentration of hollow microspheres on the thermal conductivity of syntactic foams have been established. For composites based on grey marl with added rice husks, quantitative relationships have been obtained between density, thermal conductivity, thermal diffusivity and specific heat capacity. The publications also cover lightweight concrete, polyester insulation materials and alternative building envelope systems, as well as methodological developments for determining their thermophysical properties.

I accept the contributions presented by the candidate and consider them predominantly scientific-applied, methodological and engineering-applied in nature. Their scientific value lies chiefly in obtaining new experimental data, establishing quantitative relationships for specific materials, and developing and adapting methods for their investigation. The results have practical significance for developing and evaluating construction materials with improved thermophysical characteristics.

4. Assessment of teaching, project and academic activities

Assoc. Prof. Rositsa Petkova-Slipets has 20 years of teaching experience at Varna Free University "Chernorizets Hrabar", where she has successively held the academic positions of Assistant Professor, Chief Assistant Professor and Associate Professor. Her teaching covers Bachelor's and Master's programmes in subjects related to construction materials science, material production and application technologies, energy-efficient construction and sustainable technologies. Courses taught include "Construction Materials", "Construction Materials and Technologies", "Energy-Efficient Construction", "Materials for Additive Technologies", "Low-Carbon Products and the Green Deal" and "Modern Construction Materials". Assoc. Prof. Petkova-Slipets has also developed and delivered lectures in English for international students and participants in the Erasmus programme.

An important contribution to teaching and learning resources is her university textbook "Construction Materials", first published in 2009 and updated in a second edition in 2026. The materials demonstrate sustained work on developing and updating course content. I also positively assess her contribution to training young researchers, including supervision of one doctoral student who has successfully defended a dissertation.

The high assessment of her academic activities is further supported by a positive performance evaluation in 2022, with an overall score of 5.00, and by distinctions including the 2026 Varna Award, presented to a research team led by her, and the gold-plated "Chernorizets Hrabar" honorary badge. Her considerable organizational experience as Scientific Secretary, Vice-Dean and Dean of the Faculty of Architecture should also be acknowledged.

I consider the candidate's teaching, educational-methodological and organizational activities to merit a highly positive assessment and to meet the requirements for the academic position of Professor.

5. Critical remarks and recommendations

I have no substantial critical remarks concerning the submitted research output or the competition documentation.

In my view, the formulation of the scientific contributions could distinguish more clearly between scientific, scientific-applied and applied results. Some contributions described by Assoc. Prof. Petkova-Slipets as scientific are, in my assessment, primarily methodological and scientific-applied.

I recommend that future research activities place greater emphasis on publishing in high-impact international scientific journals and on cooperation with external research organizations and industrial partners in developing and implementing joint research projects. It would also be appropriate to continue developing and experimentally validating quantitative models for assessing the properties of construction materials.

These remarks and recommendations do not alter my positive assessment of the candidate's scientific and academic activities.

6. Conclusion

Having reviewed the submitted scientific works, their relevance and significance, and their scientific-applied, methodological, engineering-applied and educational-methodological contributions, I consider that Assoc. Prof. Rositsa Veselinova Petkova-Slipets, PhD, Eng., meets the requirements of the Academic Staff Development Act of the Republic of Bulgaria, its Implementing Regulations and the internal regulations of Varna Free University "Chernorizets Hrabar" for appointment to the academic position of Professor.

Her extensive teaching experience, involvement in doctoral training, participation in research projects and considerable organizational experience as Scientific Secretary, Vice-Dean and Dean of the Faculty of Architecture also deserve recognition. Further acknowledgement of her academic work is reflected in the gold-plated "Chernorizets Hrabar" honorary badge awarded in 2026 and the 2026 Varna Award presented to the research team under her leadership.

On the basis of the foregoing, I give a positive assessment and consider it justified to recommend that Assoc. Prof. Rositsa Veselinova Petkova-Slipets, PhD, Eng., be appointed to the academic position of Professor in higher education area 5, Engineering Sciences, professional field 5.7, Architecture, Civil Engineering and Geodesy, in the Department of Building and Structural Construction, Faculty of Architecture, Varna Free University "Chernorizets Hrabar".

28 October 2026

Jury Member:

/Prof. A. Terziev, PhD, Eng./