

STATEMENT
by Assoc. Prof. Asya Petrova Viraneva, PhD
Faculty of Physics and Technology at the University of Plovdiv "Paisii
Hilendarski"

on the materials submitted for participation in the competition for the
academic position of **"Associate Professor"**
at the **"Prof. Dr. Paraskev Stoyanov" Medical University, Varna**

in the field of higher education **4. Natural Sciences, Mathematics and Informatics**,
professional field **4.1. Physical Sciences**, specialty **"Physics"**

In the competition for **"Associate Professor"**, announced in the State Gazette, issue 50 of 02.06.2026 for the needs of the Department of "Physics and Biophysics" at the Faculty of Pharmacy, the candidate is Chief Assistant Professor Natalina Konstantinova Panova, PhD from the Department of "Physics and Biophysics" at the "Prof. Dr. Paraskev Stoyanov" Medical University - Varna.

1. General presentation of the procedure and the candidate

By order No. P-109-265 of 30.07.2026 of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov", Varna, I have been appointed as a member of the scientific jury of a competition for the academic position of "Associate Professor" in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.1. Physical Sciences, specialty Physics.

The only candidate who submitted documents for participation in the announced competition is Chief Assistant Professor Natalina Konstantinova Panova, Ph.D., from the Department of Physics and Biophysics, Faculty of Pharmacy, Medical University-Varna. Natalina Panova was born in 1978 in the city of Provadia. In the period 2020-2024 she is a full-time doctoral student at the Department of Physics and Biophysics at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. In 2024, she acquired the educational and scientific degree "Doctor" in the professional field 4.1. Physical Sciences in the doctoral program of medical physics.

The scientific articles with which the candidate participates in the current competition for the academic position "Associate Professor" were developed after acquiring a PhD degree and after occupying the academic position "Chief Assistant Professor" and are 19 in number. All publications for the competition are in publications that are referenced and indexed in the Web of Science and/or Scopus databases. Chief Assistant Professor Panova is a participant in 6 scientific projects. In terms of quantitative criteria and content, the scientific output of Chief Assistant Professor Natalina Panova exceeds the minimum national requirements for occupying the academic position "Associate Professor" - the total number of points is 529 with the required 400.

The set of materials presented by Chief Assistant Professor Natalina Panova on electronic media is in accordance with the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations on the Development of Academic Staff of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, and includes all necessary documents. The documents are very well-designed and present the candidate's achievements clearly and in detail.

2. General description of the candidate's activities

Evaluation of the candidate's teaching and pedagogical activities and preparation

Natalina Panova's academic career begins in 2001 as an assistant professor at the Faculty of Public Health, Department of Medical Physics, Chemistry and Biology at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. From 2025 to the present, she is a chief Assistant Professor at the Faculty of Pharmacy, Department of Physics and Biophysics. Her average workload over the past five years is from 907 to 1108 hours, which many times exceeds the established norm of 360 hours of study.

The teaching and pedagogical activity of Chief Assistant Professor Panova includes conducting seminars and laboratory exercises with students of Bulgarian-language education. Chief Assistant Professor Panova actively participates in the updating and development of various curricula, as well as in the development and implementation of new laboratory and seminar exercises. She is a co-author of 3 collections of sample test questions and 1 teaching aid for laboratory exercises.

Evaluation of the candidate's scientific activity

The candidate Chief Assistant Professor Natalina Panova has applied for participation in the competition 19 scientific publications, which are in journals with an impact factor or impact rank. Nine of the articles are in journals with a quartile Q1, 2 are with a quartile Q2, 4 are with a quartile Q3, 3 are with a quartile Q4 and 1 is with an SJR. These include:

- publications in scientific journals equivalent to a Habilitation Thesis – (indicator B4) – 10 issues, 2 of which are in journals with a quartile Q2, 4 are in journals with a quartile Q3; 3 – in journals with a quartile Q4 and 1 article is in a journal with an impact rank $SJR=0,285$;

- scientific publications in journals that are referenced and indexed in world-renowned databases of scientific information (Web of Science and Scopus), outside the habilitation thesis, (indicator G7) - 9 issues, all of which are in journals with a quartile Q1.

All scientific publications submitted for the competition are in English and are in referenced and indexed journals. Chief Assistant Professor Natalina Panova is the first author in 4 of the submitted publications, in 4 she is the second author, in 3 she is the third author, and in the remaining 8 publications she occupies a lower position. The candidate has worked purposefully and has accumulated significant scientific results. The citations in scientific publications, referenced and indexed in world-renowned databases of scientific information (Web of Science and Scopus) are 54. The Hirsch Index (h-Index) is 5 (according to Scopus).

Chief Assistant Professor Natalina Panova PhD has fulfilled the national minimum requirements and the requirements of the Regulations for the Development of the Academic Staff of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. The specified points for each indicator are described in detail and are supported by evidence.

Main contributions:

The scientific contributions of Chief Assistant Professor Natalina Panova have both fundamental and practical applications and can be grouped into several areas:

- Study of the chemical composition and properties of various biologically active substances from extracts and essential oils for application in the pharmaceutical and cosmetic industries, as well as as food additives in the food and flavor industry.

As a result of the research, a comparative chemotypic and functional assessment of essential oils from chamomile species cultivated in Bulgaria was carried out and a scientifically substantiated distinction of the cosmetic potential of German and Roman chamomile was made. A complex chemical and biological characterization of essential oil from *Hypericum*

perforatum L. from Bulgaria was carried out and a multispectroscopic approach for metabolic profiling and quality control of *Moringa oleifera* was created.

- Application of extracts from various types of algae in the food and beverage industry and for the purposes of the pharmaceutical and cosmetic industries.

A procedure for optimization and modeling of drying of functional foods with algae has been created. Encapsulation systems for stabilization of phycocyanin with Ca(II)-alginate microspheres have been developed, and the functional and pharmacokinetic properties of phycocyanin have been evaluated.

- Application of materials science in the corrosion resistance of steels in biological fluids, and application of 3D printing in pharmaceutical products.

As a result of the conducted studies, the positive effect of laser melting on the corrosion resistance of AISI 321 in biological environments has been proven. A new model for the mechanism of corrosion destruction has been proposed and the influence of the microstructure and orientation of dendrites on the development of corrosion pits has been explained.

3. Critical remarks and recommendations

I have no critical remarks about the candidate and the materials submitted for participation in the announced competition.

CONCLUSION

The documents and materials presented by Chief Assistant Professor Natalina Panova are in significant number and meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, as the publications and the independent citations noted significantly exceed the minimum requirements for holding the position of "associate professor" in the relevant Regulations of the Medical University - Varna.

The candidate in the competition has presented a significant number of scientific works published after the materials used in the defense of her PhD degree and in holding the academic position of "Chief Assistant Professor". The candidate's works contain original scientific and scientific-applied contributions that have received international recognition, as all scientific publications are in editions that are referenced and indexed in world-renowned databases with scientific information (Web of Science and Scopus), to which is added an extremely active teaching activity.

After familiarizing myself with the materials and scientific works presented in the competition, analyzing their significance and the scientific, scientific-applied and applied contributions contained in them, I strongly support the candidacy of Chief Assistant Professor Natalina Panova for holding the academic position of **associate professor**, giving a **positive assessment** and recommending the Scientific Jury to vote positively and to prepare a report-proposal to the Faculty Council of the Faculty of Pharmacy at the Medical University - Varna for the selection of Chief Assistant Professor Natalina Panova to the academic position of "**Associate professor**" at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna in the professional field 4.1. Physical Sciences (Physics).

03.10.2026

Statement written by:

Assoc. Prof. Asya Petrova Viraneva, PhD

