

## **R E V I E W**

**on a competition for the academic position “Associate Professor”**

**Professional field 4.2 Chemical Sciences, specialty Physical chemistry with colloid chemistry,**

**For the Chemistry Department, Faculty of Pharmacy at the Medical University “Prof. Dr. Paraskev Stoyanov” – Varna;**

**Additional requirements: PhD in Professional field 4.2 Chemical Sciences; acquired specialty in the field of healthcare.**

**The competition is announced in the State Gazette vol. 6 from 16.01.2026**

**Admitted candidate for the competition: Chief Assist. Anelia Tsvetanova Gerasimova-Peneva, PhD**

by prof. Krastanka Marinova, PhD in Professional field 4.2 Chemical Sciences, Faculty of Chemistry and Pharmacy, Sofia University “St. Kliment Ohridski”,

a member of the scientific jury appointed by Order # P-109-133 from 16.03.2026 of the Rector of the Medical University “Prof. Dr. Paraskev Stoyanov” – Varna, Prof. Dr. Dimitar Raykov, MD, PhD, DSc.

General information and brief profile of the candidate.

The materials submitted by the admitted candidate in the competition Ch.Assist. Anelia Tsvetanova Gerasimova-Peneva, PhD, meet the minimum national requirements of the the Act of Development of Academic Staff of the Republic of Bulgaria (ADASRP) and the Regulations for its implementation (RIADASRP), as well as the Regulation on Academic Staff Development at Medical University Prof. Dr. Paraskev Stoyanov – Varna (RASDMUV), Art. 126(1).

Anelia Gerasimova-Peneva was born in 1987. She has a Bachelor's degree (2010) and Master's degree (2011, Diploma УИИ 138925, reg. № 32000/10.10.2011) in Chemistry from the University of Shumen “Bishop Konstantin Preslavski”. In 2016 she was enrolled as a PhD student in self-preparation at the Department of Chemistry, Faculty of Pharmacy of the Medical University “Prof. Dr. Paraskev Stoyanov” - Varna, in the specialty “Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances”. In 2017 she successfully defended a thesis “Kinetic behavior of foam films from aqueous solutions of bovine serum albumin and n-dodecyl- $\beta$ -D-maltoside” for the PhD degree in the field of higher education 4. Natural Sciences, 4.2. Chemical Sciences (Diploma № 226/20.12.2017, Medical University - Varna). In 2022 she acquired the specialty “Theoretical Foundations of Medicinal Chemistry” at the Medical University “Prof. Dr. Paraskev Stoyanov” – Varna (Certificate УИИ 4794, reg. № 025616/7.07.2022). **These facts clearly show that the candidate fully meets the additional conditions of the announced competition.**

Expertise of Anelia Gerasimova-Peneva in the area of Physical Chemistry and Colloid Chemistry is further complemented by her participation in two training courses: Training course of the ECIS and COST on “Fundamentals of Colloids and Interfaces”, 10.06.2013, Potsdam - Golm, Germany; and ECIS Training Course “Colloids and Medical Applications”, 31.08 – 01.09, 2013, Sofia, Bulgaria.

#### Teaching activities.

The submitted certificates № 099-437 and № 099-438 from 26.01.2026, issued by the Medical University – Varna show that as of 26 January 2026 Anelia Gerasimova-Peneva has a working experience of 14 years, 1 month and 14 days in total. The entire working experience is in academic positions: Assistant at the University of Shumen “Bishop Konstantin Preslavski” from 13.12.2011 to 1.10.2012, Assistant (from 1.10.2012 to 5.07.2018) and Chief Assistant (from 5.07.2018 until now) at MU-Varna, which clearly proves her significant teaching experience.

From the presented CV it is evident that Anelia Gerasimova-Peneva has been involved as a lecturer on “Physical Chemistry with Colloidal Chemistry” and on the elective course "Environment and Health" for the Pharmacy students at MU-Varna, and she has also participated in the preparation of the curricula for these two courses. She has conducted seminars and laboratory exercises in the disciplines of “Chemistry”, “General and Organic Chemistry”, “Inorganic Chemistry”, “Analytical Chemistry” for students from many other specialties at MU-Varna: “Medicine”, “Dental Medicine”, “Medical Laboratory Assistant”, “Assistant-pharmacist”.

It should also be noted the candidate's participation as a co-author of textbooks: “Colloidal Chemistry: Lectures, Problems and Laboratory Exercises”, 2025, edition of MU-Varna; “Physical Chemistry: Lectures, Seminars, Problems and Laboratory Exercises”, 2020, published by Steno-Varna, “Collection of Problems for the Entrance Exam in Chemistry” and “Collection of Test Questions for the Entrance Exam in Chemistry” for MU-Varna. Anelia Gerasimova-Peneva has also participated in the preparation of laboratory and seminar exercises for the discipline “Physical Chemistry with Colloidal Chemistry” for the Pharmacy students.

The workload report (№ 112-24/26.01.2026, MU-Varna) shows the total workload for the last five completed academic years of 2793 hours, which includes 181 hours of lectures and 2612 hours of exercises. The average workload per year is 558.6 hours, which is 55.1% more than the required 360 hours. During all five academic years, Anelia Gerasimova-Peneva has also given lectures, an average of 36.2 hours per year. All these data, in addition to demonstrating **the significant teaching experience**, also show the **very high commitment of the candidate in the educational activities** of the Medical University "Prof. Dr. Paraskev Stoyanov" – Varna.

### Scientific research activity.

For the competition Anelia Gerasimova-Peneva has presented a total of ten publications as equivalent to a habilitation thesis, according to the Additional indicators for assessment at MU-Varna (RASDMUV, Appendix 1, art.4). Three of these ten papers have been published in scientific journals of the second quartile Q2 (2 in Cosmetics, 1 in Applied Sciences), four papers have been published in Q3 journals (Natural Product Communications, Bulgarian Journal of Agricultural Science, Journal of Chemical Technology and Metallurgy, Food Science and Applied Biotechnology), and three papers are in a Q4 journal (Bulgarian Chemical Communications). In total, these publications correspond to 156 points, which significantly exceeds the required minimum of 100 points for the indicator C, according to the requirements in Appendix 1 of RASDMUV, and according to the minimum national requirements for the scientific activity for Professional field 4.2 Chemical Sciences (Appendix to Art1a (1), RIADASRP).

Under the D indicator group (according to the minimum national requirements for the scientific activity for Professional field 4.2 Chemical Sciences), in the group D7 a list of 10 other publications that are in many reputable scientific journals is presented – nine in Q1 journals (3 in Plants, 3 in Life, 1 in Foods, 1 in Proceedings of the Nutrition Society, 1 in International Journal of Molecular Sciences) and one is in a journal from Q4. In the group D10, a patent application has been included. The total points under indicator D are 252, which also significantly exceeds the required minimum of 200 points.

All scientific publications included in Group C and Group D have been published after acquiring the position of Chief Assistant and have not been used in previous procedures for scientific degrees and academic positions.

A list of 65 citations is presented, i.e. 130 points for indicator E (min required 50 points). Given the large number of citations, I would recommend to avoid the self-citations of all authors. I noticed 5 self-citations in the presented list, which could be easily replaced by the any of the citations from other authors found abundantly in Scopus.

No official documents have been submitted for indicator F, given that the academic position of "Associate Professor" does not require the presence of points. However, significant achievements can also be made on this indicator. Anelia Gerasimova-Peneva participates in 3 national projects (Project „K-TRIO - European Researchers Night“ (2008-2013), Project № M09/1, 15.12.2016, „Determination of marine toxins in Black Sea mussels and plankton“ funded by the National Science Fund; Project BG- RRP-2.004-0009-C02 "Medical University - Varna: Enhancing translational achievements in medicine (MUVE-TEAM)", funded by the European Union - NextGenerationEU, through the National Recovery and Resilience Plan of the Republic of Bulgaria. She has participated in numerous university research projects of the University of Shumen and MU-Varna as well.

Anelia Gerasimova-Peneva is a co-author of 37 scientific publications in total, 25 of which are listed in Scopus and in Web of Science, and 12 can be found in other databases. 9 publications

are in renowned Q1 journals (Life, Plants, Foods, Proceedings of the Nutrition Society, International Journal of Molecular Sciences), 5 publications are in Q2 journals (Colloids Surface A, Cosmetics), 4 are in Q3 journal, and 7 are in Q4 journal. In the Scopus database, the applicant has an h-index of 6 and a total of 90 citations (according to data in the applicant's documents as of January 2026). As of May 4, 2026, the citations in Scopus are already 111, 105 of which are from 2024, 2025 and 2026.

Anelia Gerasimova-Peneva has presented a list of 23 participations at national and international scientific events, with certificates presented. Among the events, eight reputable international conferences on colloidal chemistry, toxicology, food, and the environment stand out.

It is well evident that **the research activity and the scientific output of the candidate's work are at a very high level.**

#### Main scientific contributions.

Anelia Gerasimova-Peneva has submitted two reports for scientific contributions. Habilitation Extended Reference for Scientific Contributions based on the 10 publications submitted as an Equivalent of Habilitation Work presents the contributions classified into two main groups:

- Application of extracts from different types of algae in the food industry and for the purposes of the pharmaceutical and cosmetic industries, and
- Bioactive properties and therapeutic potential of herbal extracts.

The Report for the original scientific contributions and publications on the twenty papers presented by indicators B and D, presents the scientific contributions in three main groups:

- Bioactive substances from extracts and essential oils - composition, properties, therapeutic potential and application in pharmacy and cosmetics, and as food supplements;
- Application of extracts of various types of algae in the food industry and for the purposes of pharmaceutical and cosmetic industries; and
- Determination of the content of phycotoxins in Black Sea mussels from the Bulgarian Black Sea coast – recommended doses of dietary intake.

I accept the general report as more comprehensive, and including the classification in the Habilitation Reference, so I will comment only on the more general report.

All contributions are in the field of one of the main scientific priorities of MU-Varna - "Nutrition and Quality of Life"

The contributions in "Bioactive substances from extracts and essential oils - composition, properties, therapeutic potential and application in pharmacy and cosmetics, and as food supplements" are based on the results and contributions from 10 publications (№ 6, 7, 8, 9 and 10 on indicator C4, and № 2, 3, 4, 9 and 8 on indicator D7). All ten papers were published in 2024 and 2025, and more than 40 citations have already been noticed on them, with the most

cited being papers № 9 and № 10 on indicator C4, as well as the review paper № 2 on indicator D7. The significant citation reflects both the high interest of the scientific community in plant bioactive substances, as well as the significance of the performed research and the obtained results. I fully agree with the summary of the most important contributions in these works:

- A comparative chemotype and functional evaluation of essential oils of chamomile species cultivated in Bulgaria has been carried out;
- A scientifically based distinction has been made between the cosmetic potential of Bulgarian *Matricaria recutita* L. and *Chamaemelum nobile*;
- A complex chemical and biological characterization of an essential oil from *Hypericum perforatum* L. from Bulgaria;
- A multispectroscopic approach has been developed for metabolic profiling and quality control of *Moringa oleifera*;
- The first systematic assessment of the radionuclide content and radiation risk of consumption of *Sambucus nigra* L. in Bulgaria has been carried out;
- A complex metabolic and biological analysis of *Passiflora caerulea* L. from Bulgaria.

The contributions in „Application of extracts of various types of algae in the food industry and for the purposes of pharmaceutical and cosmetic industries“ are based on the results and conclusions in eight publications (№ 1, 2, 3 and 5 on indicator C4, and № 5, 6, 7 and 10 on indicator D7). These 8 papers were also published in 2024 and 2025, and the citations on them are over 20, with the most cited works being № 5 on indicator C4, and № 6 and № 7 on indicator D7. I agree with the summary of the most important contributions in this direction:

- A procedure for optimization and modeling of drying of functional fruit products with microalgae has been developed;
- Science-based development of sustainable functional microalgae foods;
- Chemical and metabolomic characteristics and safety assessment of *Arthrospira platensis* from Bulgaria;
- Development of encapsulation systems for stabilization of phycocyanin with Ca(II)-alginate microspheres;
- The functional and pharmacokinetic properties of phycocyanin have been evaluated;
- A relationship has been established between the metabolic composition, particle size and bioactivity of *Chlorella vulgaris*.

The contributions in „Determination of the content of phycotoxins in Black Sea mussels from the Bulgarian Black Sea coast – recommended doses of dietary intake“ are based on the results in 2 papers (№ 4 on indicator C4, and № 1 on indicator D7). I find the results of these studies, which were published in 2019 and 2020, particularly interesting and useful. The low number of citations of these works is probably due to the smaller number of studies on this topic. I accept with the summary of the most important contributions, which are of particular importance for the nutrition and quality of life of the people in Bulgaria.

Overall, the scientific work of Ch. Assist. Anelia Gerasimova-Peneva is characterized by a systematic and in-depth research approach in the study of bioactive substances of natural origin (mainly from essential oil, plants and algae), and the application of natural products in pharmaceutical, food and cosmetic products. Modern experimental methods have been applied and new procedures have been developed, such as the multispectroscopic approach for metabolic profiling of *Moringa oleifera*, encapsulation and emulsification capabilities of a number of raw materials for including active substances is shown. Most of the published papers are result from joint research investigations of several scientific groups. I find this particularly valuable given the vast number of experimental methods involved, and its combination with in silico studies, QSARs, etc., which allow the discovery of important new aspects and potential new applications of the studied systems.

Most of the scientific contributions from the research activity of the candidate can be defined as proving significant new aspects of existing and new scientific and applied scientific problems. The developed approaches and the results obtained significantly enrich scientific knowledge, and are undoubtedly essential for obtaining new products with pharmaceutical, food and cosmetic applications.

## CONCLUSION

Based on the submitted materials for the competition, the quality of the scientific publications and their citation rate, the scientific and applied contributions, and the valuable teaching activity of Ch. Assist. Anelia Gerasimova-Peneva, I find the application to fully correspond to the requirements of the Act of Development of Academic Staff of the Republic of Bulgaria and the Regulations for its implementation for occupying the academic position Associate Professor. The application corresponds to the requirements of the RASDMUV, and to the additional requirements on the completion as well. I am confidently giving a POSITIVE assessment and I recommend Ch. Assist. Anelia Tsvetanova Gerasimova-Peneva, PhD, to be elected to the academic position of “Associate professor” at the Faculty of Pharmacy of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, in the Professional field 4.2 Chemical Sciences, specialty Physical chemistry with colloid chemistry.

7.05.2026

Sofia

Member of the Scientific Jury:

Заличено на основание чл. 5, §1, б. „В“ от Регламент (ЕС) 2016/679
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/ prof. Krastanka Marinova /