OPINION

by Dr. Emiliya Demireva Cherneva

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of the materials submitted for the competition to occupy the academic position of 'Professor' in the IOCCP –BAS

Higher education field: 4. Natural sciences, mathematics and informatics,
Professional field: 4.2. Chemical Sciences, Specialty: 01.05.10 "Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances" for the needs of the lab. "HBPE" at IOCCP - BAS

In the competition for the academic position of "Professor", announced in State Gazette, issue 40 of 16.05.2025, participated Assoc. Prof. Vanya Nikolova Mantareva, DSc from the IOCCP -BAS and she is the only candidate.

1. General presentation of the procedure and the applicant

The set of materials presented by Assoc. Prof. Vanya Mantareva, DSc is in accordance with the Regulations for the Development of the Academic Staff of the Republic of Bulgaria, and meets the criteria of IOCCP -BAS for occupying the academic position of "Professor".
Assoc. Prof. Vanya Mantareva, DSc has presented a total of 90 publications and chapter of books. and is participating in the current competition with 27 publications, including 6 scientific papers that fall within the scope of her habilitation thesis (indicator C), while the remaining 21 publications are grouped under indicator D. Most of the scientific publications included in the competition have been published in high rank scientific journals indexed in the internationally recognized Scopus and Web of Science databases. In 11 of the scientific articles presented, Assoc. Prof. Mantareva is the first author and corresponding author. The candidate has 249 citations for a period of three years and an h-index of 17. Lists of participation in scientific conferences, participation in and leadership of scientific research projects are also presented.

2. General characteristics of the applicant's activities

The research work of the candidate focuses on the synthesis and characterization of photosensitive compounds that are used as photosensitizers in photodynamic therapy (PDT). The work involves the full process from the synthesis of phthalocyanine derivatives used as ligands and the preparation of complexes with various metals such as palladium, nickel, gallium, zinc, aluminum, and lutetium, through their structural characterization, to an in-depth study of their properties as photosensitizers. The results of the analyses associated with photostability and quantum yield of singlet oxygen show that lutetium and palladium complexes exhibit photophysical properties that make them potential candidates for further research and application.

Interesting natural compounds such as cobalamins and anthraquinones have also been studied, which can be potentially considered as new natural photosensitizers for application in the photodynamic method.

Part of the work of Assoc. Prof. Mantareva is in the area of developing photodynamic methods using phthalocyanines for the treatment and control of socially significant diseases, including infections and oncological diseases of high public importance.

Assoc. Prof. V. Mantareva has supervised one successfully defended doctoral student.

Of particular importance for the competition for the academic position of "professor" is the fact that the candidate holds the highest academic degree – "Doctor of Science".

The candidate's contributions are scientific and applied in character, which is confirmed by the scientific significance of the publications presented and the results obtained. The research has been published in highly ranked journals: Biomedicines; Gels; Int. J. Mol. Sci; Cancer Gene Ther., Viruses (Q1, 5), Inorganics; Front. Biosci. - Landmark Ed.; Curr. Iss. Mol. Biol.; J. Mol. Struct.; J. Fluor.; J. of Biomed. Photonics & Eng., 2 (Q2, 7), Bulg. Chem. Comm.; Sylwan – Eng.Ed., 2 (Q4, 3), SPIE Proceed. (SJR, 5), J. of Physics: Conf. Series (SJR, 4); J. Biomed. Discoveries and Arch. Biotech. Biomed. The large number of citations by other researchers testifies to the relevance of the field of research and the results achieved.

Conclusion:

The documents and materials submitted by Assoc. Prof. Vanya Mantareva meet all the requirements for holding the academic position of "Professor" at the IOCCP -BAS, according to the requirements of the Law for the development of the academic staff in the Republic of Bulgaria, the Rules for implementation of the Law, the Rules for implementation of the Law in IOCCP - BAS.

The candidate has submitted a sufficient number of publications, published after the materials used in the defense of the scientific degree "Doctor of Science" and for acquiring the academic position of "associate professor." They feature original scientific and applied scientific contributions that have received international recognition.

The results achieved by Assoc. Prof. Vanya Mantareva in the field of scientific research fully respond to the specific requirements of the Regulations of the Institute of Organic Chemistry with Centre of Phytochemistry at the Bulgarian Academy of Sciences for the application of the Law.

The analysis of the materials submitted in the competition gives me reason to give a positive assessment and recommend that the members of the Scientific Jury support the selection of Assoc. Prof. Vanya Mantareva, DSc for the academic position of 'professor' at the IOCF-BAS in professional field 4.2. Chemical Sciences, scientific specialty "Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances."

23.09.2025 Member of the Jury:

Assoc. Prof. Dr. E. Cherneva