

Opinion

by Prof. DSc. Ivo Grabchev

Sofia University "St. Kliment Ohridski", Faculty of Medicine, member of the scientific jury in a competition for the academic position of "professor" in the professional field 4.2. Chemical Sciences (Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances), announced in the State Gazette issue 40 of 16.05.2025.

This opinion was prepared based on Order No. RD 09-125, issued on June 23, 2025, by the Director of the Institute of Organic Chemistry with the Center for Phytochemistry at the Bulgarian Academy of Sciences (BAS). It also reflects the decision made during the scientific jury meeting on July 23, 2025. The document complies with the requirements outlined in the Act on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its Implementation, and the Regulations regarding the Conditions and Procedures for Acquiring Scientific Degrees and Holding Academic Positions at the Institute of Organic Chemistry with the Center for Phytochemistry, BAS.

Candidate Presentation

Assoc. Prof. DSc. Vanya Nikolova Mantareva was born in Sofia. In 1990, she graduated as a chemical engineer from the University of Chemical Technology and Metallurgy, Sofia. Afterward, in 1991, she began working as a specialist chemist at the Institute of Chemical and Biological Sciences. During the period 1995-1998, she prepared and defended a dissertation for the acquisition of the ONS-doctor, and in 2021, she defended a dissertation for the scientific degree "Doctor of Sciences", in the scientific specialty: 4.2. Chemical Sciences, "Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances", 01.05.10. Between 1991 and 2014, she worked successively as a chemist and research assistant. In 2014, she was habilitated as an associate professor at the same institute, where she currently works. After defending her doctoral dissertation, Assoc. Prof. Mantareva has specialized several times at the Institute of Macromolecular Chemistry, University of Bremen, Germany (under Prof. Dieter Wörle); the University of Louisville, Louisville, Kentucky, USA (under Prof. Alan Morgan); and at the Autonomous University of Madrid, Spain, in the group of Prof. Tomas Torres.

Research activity and scientometric data

The main scientific interests of Assoc. Prof. Mantareva is in the field of an exciting and topical scientific area, which has been developing intensively in recent years, such as antibacterial photodynamic therapy, driven by the increasing resistance of pathogenic microorganisms to antibiotics used in clinical practice. This requires the synthesis of suitable organic compounds that can be studied as photosensitizers. On the other hand, more and more scientific research is focused on optimizing the structure of already known photosensitizer structures to identify the best physicochemical and photobiological properties that contribute to the effect of photodynamic action. Assoc. Prof. Dr. Vanya Mantareva is the author and co-author of 90 scientific papers, three of which are chapters of monographs and one independent monograph, published by BP International, London, which have been cited more than 950 times, and her h-index without self-citations is 17 (Scopus) and 18 (incl. other databases). In the competition for "professor" she participated with 27 scientific papers in journals with a high impact factor, which are distributed by quartiles as follows: in Q1 – 5; in Q2 – 7; Q4 – 3; nine articles in issues with SJR without IF, published in a journal (JOP) and in a series (SPIE Proceed.), which are indexed in Scopus and one independent monograph based on a defended dissertation. In 11 of the publications, she is the first and only author listed as the corresponding author. It should be noted that the articles with which she participated in the competition were published in recent years, mainly after the defense of her dissertation. They are in leading journals in the field in which Assoc. Prof. Mantareva works, such as Biomedicines, Gels, Int. J. Mol. Sci, Inorganics, Curr. Issues Mol. Biol. J. Cancer Gene Ther., Viruses, Front. Biosci., J. of Mol. Structure, J. of Fluorescence, J of Biomedical Photonics & Eng., J. of Biomedical Photonics & Engineering.

The relevance and significance of her research are evidenced by the fact that in the period 2022-2025, her scientific works were cited over 249 times in reputable scientific journals.

According to the requirements of on the conditions and procedure for acquiring scientific degrees and for occupying academic positions at the Institute of Organic Chemistry with the Centre for Phytochemistry, BAS, the minimum required total number of points from the indicators in groups A-E is 750 points for candidates for the academic position of "professor". In the current competition, Assoc. Prof. Vanya Mantareva participated with 1418 points, which significantly exceeded this requirement.

In 1998, Assoc. Prof. Mantareva defended her dissertation and was awarded the educational and scientific degree "Doctor", indicating that the mandatory group A indicator of 50 points was met. In 2021, she earned the scientific degree of Doctor of Sciences, and for indicator B, she received 100 points. Five

publications are grouped according to the indicators in group C, with three in Q1 and two in Q2, which brings 115 points, the required 100 points. Under indicator D, 20 scientific papers are presented, indexed in world-renowned databases of scientific information (Web of Science and Scopus), in addition to those described in indicator C. Similar to the publications in group C and in this group, the research was published in journals with a high impact factor and quadrilles, which collectively earned 296 points, exceeding the 250 points required for this indicator. The presented report on citations in Scopus and Web of Science shows that in the competition, Assoc. Prof. Mantareva presented a list with 249 citations, which equals 498 points under indicator D, with the required 200 points.

In 2021, Assoc. Prof. Mantareva defended her dissertation for the Doctor of Science. She was a participant in 3 research projects and the leader of one project funded by the National Science Foundation. She was also the head of the Bulgarian team in international projects, including Turkey (2013-2016) and China (2024-2026), and a participant in projects with Russia (2020-2022) and Poland (2024-2025). The project funds attracted as a leader totaled 170,000 BGN. The total points presented under indicator E are 359 points, with 150 points required. All indicators show that Assoc. Prof. Mantareva not only met the minimum national requirements for the competition but also significantly exceeded the standards set by the Institute of Organic Chemistry with the Center for Phytochemistry at BAS.

Teaching and learning activities

According to the specific conditions of employment at the Bulgarian Academy of Sciences, candidates for the academic position of "professor" are not required to have mandatory teaching and learning activities. However, I would still like to note that she was the supervisor of a doctoral student who successfully defended their thesis.

Opinions, recommendations and notes

I have no comments on the format of the submitted materials for the competition. They are prepared correctly and clearly distinguish the scientific contributions of the candidate, fully meeting the requirements of the Law on Scientific and Technical Research of the Republic of Bulgaria and the regulations of the Institute of Organic Chemistry with the Center for Phytochemistry, BAS. I was a reviewer of the dissertation work of Assoc. Prof. Vanya Mantareva for the scientific degree of Doctor of Sciences and my personal impressions as a person and a scientist are excellent.

Conclusion

The scientific papers submitted for participation in the competition show that the scientometric indicators of Assoc. Prof. Dr. Vanya Mantareva exceeds the requirements for holding the academic position of "professor", according to the Law on the State Administration of the Republic of Bulgaria and the Regulations for its implementation, the terms and conditions for acquiring scientific degrees and for holding academic positions at the Institute of Organic Chemistry with the Center for Phytochemistry, BAS. The analysis of the materials submitted for participation in the competition gives me every reason to express my positive assessment of the work of Assoc. Prof. Dr. Vanya Mantareva recommends that the scientific jury support her choice for the academic position of "professor" in the professional field 4.2. Chemical Sciences (Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances 01.05.10.) for the needs of the laboratory "Chemistry and Biophysics of Proteins and Enzymes".

Date: 23.09.2025

Member of the Scientific Jury:
Prof. DSc. Ivo Grabchev