O P I N I O N

by Prof. Dr. Iliyan Ivanov Ivanov

Faculty of Chemistry, "Paisii Hilendarski" University of Plovdiv

Member of the scientific jury, according to order RD – 22-53/09.01.2026

of the Rector of the "Paisii Hilendarski" University of Plovdiv

ABOUT: a competition for occupying the academic position of *Professor* in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.2 Chemical Sciences (Organic Chemistry, Bioorganic Chemistry), announced in the State Gazette, issue 96/11.11.2025.

One candidate has been admitted participating in the competition – Assoc. Prof. Stoyanka Nikolova Atanasova, PhD. The documents submitted by Assoc. Prof. St. Atanasova for participation in the competition, both in paper and electronic form, are in full compliance with the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB) and the Regulations for the Development of the Academic Staff of Plovdiv University "Paisii Hilendarski".

Brief biographical data and professional development

Dr. Stoyanka Nikolova Atanasova completed her higher education in 1996 at Shumen University "Bishop Konstantin Preslavski", where she obtained a Master's degree in Chemistry. During the period 1999–2003, she was a PhD student at University of Economics – Varna and defended her doctoral dissertation in the scientific specialty *Organic Chemistry* on the topic "Synthesis of nitrogen derivatives of 2-aryl and 2-heteroaryl-1,3-indandiones" under the supervision of Prof. St. Minchev, DSc. Her professional career began as a chemistry teacher at Secondary School "P. R. Slaveykov" in Dobrich (1996–1999). Since 2004, her academic development has been closely associated with Plovdiv University "Paisii Hilendarski", where she has successively held the positions of Chief Assistant Professor (2004–2012) and Associate Professor in Organic Chemistry (since 2012). In her teaching activity, Assoc. Prof. Atanasova delivers lecture courses, seminars, and laboratory classes in Organic Chemistry, Bioorganic Chemistry, Organic Analysis, and Chemistry of Medicinal Substances for students from various study programs. She actively participates in the education and training of students in Bachelor's and Master's degree programs.

Her professional development is characterized by a consistent academic career, active teaching activity, and a significant contribution to the training of students and young researchers in the field of Organic Chemistry.

Research evaluation

For participation in the competition, the candidate has submitted 28 scientific publications (Q1 – 22, Q2 – 6) that do not duplicate materials used in previous procedures for obtaining the educational and scientific degree "*Doctor*" and for holding the academic position of *Associate Professor*, as well as for certifying the fulfillment of the national minimum requirements in the

Academic Staff Register. All submitted scientific publications have been published in journals indexed and abstracted in the international databases Scopus and/or Web of Science (WoS). Of these, 8 publications fall under indicator B and 20 under indicator G, according to the national requirements.

The scientific works have been published in well-established international scientific journals with an impact factor, with the total impact factor of the submitted publications reaching IF 106.4, which indicates the strong scientific visibility of the obtained results. The reported scientific results have attracted attention in the specialized scientific literature, and as of 2026, 296 independent citations have been recorded in the Scopus and Web of Science databases. According to Scopus, the candidate has a Hirsch index (h-index) of 12, which is fully comparable with the requirements for holding the academic position of Professor in the respective professional field.

As a habilitation thesis for participation in the competition, eight scientific publications are presented, thematically united in two main research areas related to the design and synthesis of new biologically active compounds with spasmolytic, anti-inflammatory, and antimicrobial activity, as well as to the synthesis of silver nanoparticles and investigation of their biological activity.

Within the first research area, new approaches for the synthesis of small organic molecules with spasmolytic activity have been developed. A rational design of potentially biologically active compounds has been carried out, and structure–activity relationships have been investigated through the introduction of various substituents into the molecular structure. Twenty-eight new derivatives have been synthesized, for which spasmolytic activity has been investigated for the first time. It has been established that the synthesized compounds do not affect the repeated acetylcholine response, in contrast to the reference substance mebeverine. A quantitative approach for evaluating the inhibition of albumin denaturation as an indicator of in vitro anti-inflammatory activity has been applied and confirmed through ex vivo experiments, in silico calculations, and molecular docking. The obtained results expand current knowledge regarding the relationship between molecular structure and biological activity and provide a basis for the future rational design of biologically active compounds.

Within the second research area, a rapid, fully green, and environmentally friendly method for the synthesis of silver nanoparticles has been developed, suitable for use as drug carriers. The synthesis conditions have been optimized, and nanoparticles loaded with mebeverine, mebeverine precursors, and phenindione have been obtained for the first time. The spasmolytic and anticoagulant activity of biologically active compounds immobilized on nanoparticles has been investigated. In addition, changes in the fatty acid composition, tocopherol content, and oxidative potential of nanoparticles obtained from a solution of *Spirulina platensis* have been studied, establishing a relationship between the composition of the extract and the nanoparticle formation process.

In summary, it can be concluded that the candidate's research activity is characterized by a well-defined thematic profile, strong publication activity, significant scientometric visibility, and original scientific and applied scientific results.

Evaluation of teaching and learning activities

The teaching and educational activity of Assoc. Prof. Atanasova is characterized by high intensity, a wide range of taught disciplines, and active work with students and doctoral candidates. Since assuming the academic position of *Associate Professor*, the candidate has completed more than 4,000 teaching hours of classroom workload. Within her teaching activities, Assoc. Prof. Atanasova delivers lecture courses, seminars, and laboratory classes in disciplines such as Organic Chemistry, Bioorganic Chemistry, Organic Analysis, and Biochemistry. She participates in the education of students from various study programs, including "Biology and Chemistry," "Chemistry and English Language," "Science Education," and "Analysis and Control." The candidate has also contributed to the development of new academic courses, including courses in Bioorganic Chemistry, Organic Analysis, and specialized courses in English for international students. Assoc. Prof. Atanasova has made a significant contribution to the training of young specialists and researchers. She has supervised more than 40 graduate (diploma) students from various programs of the Faculty of Chemistry and the Faculty of Biology at "Paisii Hilendarski" University of Plovdiv. She has also supervised six PhD students, two of whom have successfully defended their doctoral dissertations. The candidate actively supports the participation of students and doctoral candidates in national and international scientific forums, which contributes to their early involvement in research activities and the development of research skills. Assoc. Prof. Atanasova is also a co-author of three teaching manuals.

In summary, it can be concluded that the candidate's teaching activity is characterized by a high teaching workload, active participation in the education of students from various programs, and consistent work in the training of young researchers.

The materials submitted by Assoc. Prof. St. Atanasova fully meet, and in several indicators exceed, the national minimum requirements for holding the academic position of *Professor*.

Group of indicators	Minimum requirements for AP *professor*	Candidate data
А	50	50
Б	-	-
В	100	170
Г	200	475
Д	100	592
Е	150	192
	600	1479

Conclusion

The results achieved by Assoc. Prof. Dr. Stoyanka Atanasova in her teaching and research activities significantly exceed the national minimum requirements, as well as the additional requirements of the Faculty of Chemistry at Plovdiv University "Paisii Hilendarski".

After reviewing the materials and scientific works submitted for the competition and analyzing their significance, as well as the scientific and applied scientific contributions contained therein, I consider it justified to give my positive evaluation and to recommend that the esteemed Scientific Jury prepare a report to the Faculty Council of the Faculty of Chemistry for the election of Assoc. Prof. Dr. Stoyanka Nikolova Atanasova to the academic position of *Professor* at "Paisii Hilendarski" University of Plovdiv in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.2 Chemical Sciences.

05.03.2026 Opinion prepared by: .....

Plovdiv Prof. Dr. Iliyan Ivanov