

OPINION

on competition for the academic position "professor"

in professional field 4.2. Chemical sciences, specialty "Physical Chemistry"

for the needs of Section "Phase formation, crystalline and amorphous materials" announced in State Gazette No 107 of December 20-th, 2024,

with candidate **Svetlozar Dimitrov Ivanov, PhD, Associate Professor**

Member of the scientific jury: Nina Dimitrova Dimcheva, PhD, Associate Professor, Plovdiv University "Paisii Hilendarski"

The only candidate in the professorship competition Assoc. Professor Dr. Svetlozar Ivanov received his Ph.D. degree in Physical Chemistry, awarded to him by Higher Attestation Commission in 2006. His habilitation in 2019 has led to an associate professorship in Technical University of Ilmenau, Germany. Professional development of Assoc. Prof. Ivanov is closely associated with electrochemistry and the opportunities which it provides for solving a wide range of practical problems, ranging from the selective analysis of biologically significant compounds to the development of energy sources. His expertise is closely related mostly to the following main areas (but is not limited to):

- 1) synthesis and characterization of novel nanostructured materials with prospective applications in devices for energy production and storage;
- 2) deposition of composites with electrocatalytic properties and their characterization in electroanalysis of biologically significant substances (dopamine, hydrazine, H_2O_2 , etc.);
- 3) development and characterization of materials with photoelectrochemical properties.

A list of 14 scientific publications in total (11 research articles and three reviews) was presented, following his habilitation, with which the candidate participates in the professorship competition. All of them were published in highly reputable scientific journals, 9 of them are published in editions with quartile Q1, and the remaining 5 – in editions with quartile Q2. Six of the publications (3 Q1 and 3 Q2) were determined to be equivalent to habilitation work.

The "Vision for the development of research and teaching activities" of the group on materials for energy storage and electrochemistry of biologically active compounds, proposed by Dr. Ivanov impresses with its deep understanding of the specifics of the group's work as well as the needs for specialized courses for training of undergraduate and Master students.

It is evident from the presented by Dr. Ivanov documents and proofs, that he not only fulfills the legal requirements of the law for academic promotion, the specific requirements of BAS, as well as the requirements set by the Scientific Council of the Institute of Physical Chemistry, but also significantly exceeds them. Given that a total of 640 points are required in order to meet the science-metric criteria of groups A-E, Assoc. Prof. Ivanov provided evidences for a total of 1039 points, exceeding in the same time the minimum requirements for each individual criterion.

The main contributions of the candidate for the academic position "professor" in both scientific and applied aspects, can be defined as enrichment of the existing knowledge and theories, as in his research are used both experimental techniques and modeling of processes with the aim to proving the raised scientific hypotheses. Innovative approaches have been used both in the

development of novel materials using chemical and electrochemical methods, and in their characterisation using various techniques, such as: the author's thin film calorimeter for the study of the thermodynamic properties of thin films (used in materials for energy storage characterization).

In five of the six publications, equivalent to habilitation work Assoc. prof. Ivanov is the lead author (author for correspondence), which unequivocally shows that he is the main driving force for concept generating, executing and documenting research. His high professionalism is also evident from the two book chapters printed by Elsevier and Springer – known as publishers of high academic reputation, in which he is either the lead or sole author.

There are also two published international patent/utility model applications in which Assoc. Professor Ivanov is a second author – a fact that unequivocally demonstrates both his considerable creative capacity and his substantial personal contribution to this Applied Research.

Given the wide variety of research approaches used to characterize nanostructured novel materials and composites, as well as the innovative approaches in their development, it is not surprising that his works has received a wide response among the scientific community. The total number of citations (excluding self-citations) of all Dr. Ivanov's works exceeds 1000, and his index of citation is 13 (according to data of Scopus and Web of Science).

I do not have any critical notes or comments on Dr. Ivanov's works, but I will take the opportunity of recommending him to summarize his experience in an appropriate monograph or textbook.

CONCLUSION

After getting acquainted with the materials provided and analyzing their significance and scientific value, I believe that Assoc. Prof. Dr. Svetlozar D. Ivanov not only meets all the criteria, but also exceeds the legal requirements, the minimum national requirements for science-metrics and the specific requirements of the Scientific Council of IPC-BAS and can be awarded the academic position "professor" in Scientific area 4.2. Chemical sciences (specialty Physical Chemistry).

Based on the above, I strongly recommend to the members of the scientific jury to select Assoc. Professor Dr. Svetlozar Dimitrov Ivanov for academic position "professor" of Physical Chemistry.

Date: 05/07/2025

Member of the scientific jury:

/Dr. Nina D. Dimcheva, Assoc. Prof./