

OPINION

by Associate Professor Dr. Detelin Stefanov Stamenov

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REGARDING: procedure for a competition for the academic position of **Associate Professor** in the scientific field 4. “Natural Sciences, Mathematics and Informatics”, in the professional field 4.3. Biological Sciences, scientific specialty “Biophysics”, announced by Sofia University “St. Kliment Ohridski” for the needs of the Faculty of Physics – in the State Gazette No. 88/18.10.2024

The only candidate who submitted documents for participation in the announced competition is Senior Assistant Professor Dr. Elitsa Lyubomirova Pavlova from **the Department of Optics and Spectroscopy, Faculty of Physics – Sofia University “St. Kliment Ohridski”**.

1. Details about professional activity of Elitsa Lyubomirova Pavlova

Elitsa Pavlova graduated from the Faculty of Biology of Sofia University “St. Kliment Ohridski” in 2001 as M.Sc. in Biology – “Cell Biology and Developmental Biology”, and in 2002 she graduated with a second M.Sc. degree “Biology and Chemistry” at the Faculty of Biology of Sofia University “St. Kliment Ohridski”. After completing her education at the Faculty of Biology, Pavlova worked as a chemist at the Faculty of Physics, Sofia University for the period 2005 – 2007, after which she worked as an assistant and senior assistant until 2011. In 2008 she worked as a senior researcher at Bul Bio - NCIPD EAD (March – December). Since 2011 she has been working as a chief assistant at the Department of Optics and Spectroscopy at the Faculty of Biology of Sofia University “St. Kliment Ohridski”. In 2007 Pavlova successfully defended her PhD thesis entitled "Assessment of biomarkers of oxidative stress" and received the educational and scientific degree PhD in the scientific specialty "Animal and human physiology" (01.06.17) according to the then classifier. Elitsa Pavlova in the period from 2002 to the present has taken numerous courses in order to develop her scientific career and improve her qualifications in the field of medical physics and biophysics - European School in Medical Physics; NATO ASI, International Summer School in Biophotonics; Physics Without Borders and many others.

2. Evaluation of the submitted reference by Elitsa Pavlova

The documents submitted by the candidate in the competition comply with the requirements of the Law on the State Academic Staff of the Republic of Bulgaria and the Regulations on the terms and procedure for acquiring scientific degrees and occupying academic positions at the University of Sofia. However, the submitted documents are disorganized and complicate the process of preparing the opinion.

Regarding the competition requirements, the candidate has submitted documents in accordance with the regulations of Sofia University, including: CV; Higher education diploma and annex; Diploma for educational and scientific degree PhD; Document for academic position; Certificate of work experience in the specialty; Documents proving the fulfillment of the requirements under Art. 105, para. 1, item 2; List of publications including: a list of full publication activity and a list of publications submitted for participation in the competition; List of publications, conferences, projects and scientific guides; Sample report on the fulfillment of the minimum national requirements for the relevant scientific field and the additional requirements of Sofia University "St. Kliment Ohridski"; Report on citations with a full bibliographic description of the cited and citing publications; Report on original scientific contributions; Report on the indicators under Art. 112, para. 2 - attached files for the graduate students supervised in the Faculty of Physics and Mathematics of Sofia University, the teaching employment of Dr. Pavlova and evidence of a national project led by her; Scientific papers submitted for participation in the competition; Summaries of the peer-reviewed publications; Copy of the announcement in the State Gazette.

Based on the submitted documents, I can note that in some of them Pavlova has admitted the presence of omissions and errors, and during the review process the scientific jury had to request the addition of additional documents and revision of others, such as the candidate's CV and the addition of materials on the science metric indicators from **group B**. For the added and revised materials, Dr. Pavlova has received the relevant permissions from the authorized bodies for the purpose.

3. Analysis of the main areas and research work and personal contributions of Elitsa Lyubomirova Pavlova.

For indicators from **group A**, Elitsa Pavlova has **50 points** based on the fact that she defended a dissertation for the award of the educational and scientific degree PhD on the topic "Assessment of biomarkers of oxidative stress";

For indicators from **group B, indicators 3 and 4**, Pavlova provides a document with a calculated **117 points** based on 7 publications, of which 5 are with IF and quartiles (1 Q1; 3Q2 and 1Q4), and 2 are with SJR and are without IF and exceed the required **100 points** for this indicator.

For indicators from **group G, indicators 5 to 9**, there are **255 points** from 13 articles presented with a required **200 points**. All articles have IF and Q-rank, with the exception of 1 publication with SJR.

The citations presented in a separate list are **147 - indicator D** with a required **50 points (25 citations)**. The points for this indicator were incorrectly calculated at 147 points, and in fact, with the number of citations declared in this way, they should have been 294 points. **In group E**, Dr. Pavlova was assessed with **167 points**. In terms of academic workload, Elitsa Pavlova significantly exceeds the minimum requirements of the Faculty of Law.

In my opinion, the candidate Elitsa Pavlova **meets** the national requirements under Art. 26 of the Law on the Education of the Republic of Bulgaria for the scientific field 4. "Natural Sciences, Mathematics and Informatics", professional direction 4.3. "Biological Sciences" and, accordingly, the requirements of the Faculty of Biology of the Sofia University "St. Kliment

Ohridski", where the competition for the academic position of "Associate professor" in the scientific field and the relevant professional direction of the competition is held.

4. Overall assessment of the significance of the scientific achievements of Elitsa Lyubomirova Pavlova

I highly appreciate the significance of scientific achievements on topics such as: research on the pro- and antioxidant activity of plant extracts, chemical compounds and medicinal substances and the assessment of the safety of newly synthesized nanoparticles and nanomaterials by their pro- and antioxidant activity.

Among the more important research of the candidate, I can highlight the study of the role of reactive oxygen species (ROS) in the influenza-induced pathological response and its regulation. Viral infections are accompanied by the development of oxidative stress. ROS affect the accumulation of viruses, but are also important for the host's defense mechanisms. Low levels of reactive oxygen species (ROS) play a role in mitogenic activation and the early phase of viral infection. Influenza viruses also activate phagocytic cells, for whose effective response to influenza infection ROS are also required. On the other hand, antioxidants can limit the harmful effects of cytokines and lipid mediators, which is important for the treatment of influenza. Using classical virological and biochemical methods, Pavlova and co-authors investigated the therapeutic effects of a combination of an antiviral drug – oseltamivir, an immunomodulator – isoprinosine (IP) and the polyphenolic plant antioxidant – ellagic acid (EA). The authors found that the viral inhibitor, applied together with the immunomodulator and the antioxidant, showed more significant therapeutic effects. Other important studies, in my opinion, are the pro- and antioxidant activities of nanoparticles and nanomaterials.

5. Organizational and educational activities

Elitsa Pavlova is involved in numerous projects, which is an important part of the organization of the scientific activity of the team of which she is a member. Considering the fact that Pavlova is not habilitated, this limits her activity at the level of organizational activity in the Faculty of Physics. However, here I must again note the high activity of Dr. Pavlova as a teacher in every respect – lectures, exercises and supervision of graduate students, etc.

6. Critical notes and recommendations

My critical remarks have already been detailed above and are related to **problems with the documentation, which led to the need for corrections, which were allowed by the respective institution.** In many cases, I had to look for important information about the candidate outside the documentation she submitted. The candidate has fulfilled and exceeded most of the requirements for acquiring the academic position of associate professor. I recommend that Dr. Elitsa Pavlova be more careful when working with documents, since even if the criteria are met, she may be assessed negatively.

7. Conclusion on the candidacy

Based on the submitted materials, I confirm that **Elitsa Lyubomirova Pavlova fulfills the requirements of the LDASRB**, the Regulations for its implementation, as well as the Regulations of Sofia University "St. Kliment Ohridski" for the candidate to occupy the academic position of "Associate professor" in the scientific field and professional direction of the competition. I give my **positive assessment** and, based on the above, I recommend that the

scientific jury propose to the competent body for the selection of Sofia University **Elitsa Pavlova to occupy the academic position of "Associate professor"** in the professional direction 4.3. Biological Sciences, scientific specialty "Biophysics" for the needs of the Faculty of Physics of Sofia University "St. Kliment Ohridski".

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Sofia

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