STATEMENT

on the competition for the academic position of **"Associate professor"** in the field of higher education: 4. Natural sciences, mathematics and informatics; professional direction: 4.3 Biological sciences, scientific specialty Ecology and Ecosystem Protection, announced in the State Gazette No. 7 of 23.01.2024.

Candidate: Chief Assist. Prof. **Slaveya Tencheva Petrova,** PhD, from the Department of Microbiology and Environmental Biotechnologies at the Agricultural University - Plovdiv

Prof. Dr. Malgozhata Yan Moetska-Berova, PhD, from the Agricultural University of Plovdiv, appointed according to Order No. RD-16-403/20.03.2024 of the Rector of the Agricultural University - Plovdiv as a member of the scientific jury

1. Brief presentation of the candidate

Slaveya Tencheva Petrova graduated in Ecology and Ecosystem Protection at "Paisiy Hilendarski" University of Plovdiv in 2008 and graduated with the educational and qualification degree "Master Ecologist", and in 2012 after successfully defending a doctoral thesis on the topic: "Passive and active phytomonitoring of atmospheric pollution in the city of Plovdiv" she obtained a PhD in Ecology and Ecosystem Protection. In 2011, she started working as an assistant at the Department of Ecology and Environmental Protection at the University of Plovdiv (primary employment contract), where she has continued her professional realization until now. At the same time, from 2017 until now, she has been working on a second employment contract as a chief assistant at the Department of Microbiology and Environmental Biotechnologies at the University of Plovdiv. Dr. Petrova speaks English and French.

2. General description of the of the scientific production

The scientific output of Dr. Petrova, including her doctoral thesis and publication activity, meets the requirements for scientometric indicators for the academic position of associate professor and corresponds to the profile of the announced competition.

Dr. Petrova participated in the competition for the academic position of associate profesor with a total output of 25 papers, grouped as follows:

- Scientific publications on the nomenclature specialty - 25 items, of which:

- publications related to the doctoral dissertation - 3 issues (not subject to consideration);
- publications with an impact factor – 12 items;
- publications in peer-reviewed and refereed scientific journals – 10 items.

Twenty-two (22) publications are subject to analysis in preparation for this statement.

The personal participation of Dr. Petrova in the mentioned 22 papers is illustrated by the fact that in 1 paper, she is a single author; in 9 papers, she is the first author; in 3 papers, she is the second author; and in the remaining 9 papers, she is the third and subsequent author.

- Textbooks - 1 item;
- Study guides -1 item.

The information on fulfilling the minimum national requirements under Art. 2 "b", par. 2, 3 and 5 of the Law on the Development of Academic Staff in the Republic of Bulgaria for scientific field 4. Natural sciences, mathematics and informatics; professional field 4.3. Biological sciences, from chief assist. prof. Dr. Slaveya Tencheva Petrova forms the following scientific indicators:
group „*А*" - 50 points; group „*В*" - 120 points; group „*Г*" - 200 points, group „*Д*" - 70 points and group „*Е*" - 20 pts. With a minimum of 400 points for an associate professor, according to Law on the Development of Academic Staff in the Republic of Bulgaria, Dr Petrova proves 460 pts, exceeding the minimum national requirements. From 2018 until now, Dr. Petrova has participated in 6 national scientific projects, which could be further reflected in group „*Е*".

The distribution of scientific output by quartiles is as follows: 4 publications in Q2, 8 in Q3 and 10 - in quartile Q4.

3. Teaching activity

Dr. Petrova's teaching experience so far amounts to 12 years at PU "Paisiy Hilendarski" and 7 years at AU - Plovdiv. Her total academic workload as a teacher in the department for which this competition has been announced (lectures, exercises, extracurricular employment) for 2018-2023 amounts to 945.6 hours. She delivers lectures and exercises with students of the Bachelor's degree in Plant Protection and Ecology and Environmental Protection. She is the co-author of 1 textbook and 1 study guide.

4. Scientific research activity

The research activity and achievements of Dr. Petrova are aimed at solving scientific and applied problems, which can be formed in 4 areas:

- research in the field of ecology of urban ecosystems (urban ecology) - publications „*В2*", „*В3*", „*В6*", „*В9*", „*Г1*", „*Г2*", „*Г3*", „*Г8*", „*Г9*" and „*Г12*";
- research in the field of ecology of natural ecosystems - publications „*В5*", „*В10*", „*Г4*", „*Г5*", „*Г6*" and „*Г7*";
- research in the field of organic agriculture - publications „*В1*", „*В7*", „*В8*" and „*Г11*";
- research on cultivated sorghum varieties - publications „*В4*" and „*Г10*".

I accept the author's reference prepared by Dr. Petrova for her scientific and applied contributions and the manner of their presentation. They correctly reflect the results of the studies that were conducted. Some of them are original, for example:

- For the first time in the city of Plovdiv, active biomonitoring was applied through collectors with mosses and lichenized fungi to assess air pollution;
- The first of its kind for the city of Plovdiv, complex studies were conducted on the state of key components of the urban ecosystem (soils, soil communities, green infrastructure, etc.);
- First of its kind studies for the town Plovdiv were conducted on the mobile forms of the identified pollutants and an assessment of the ecological conditions and the state of urbanized soils;
- Biomarkers for the effects of microplastics on plants have been proposed,

and others are of an affirmative nature, for example:

- The advantages of biomonitoring compared to instrumental methods in the implementation of systematic observations to assess the condition and forecasting possible changes in air quality have been confirmed;
- Histological and histochemical changes have been confirmed as compensatory-adaptive mechanisms for fish survival in heavy metal polluted waters;
- The dynamics of liver enzyme activities in fish have been confirmed as an effective biomarker for assessing the status of aquatic ecosystems under complex heavy metal pollution.

Dr. Petrova's scientific achievements have been presented in publications in addition to oral presentations (7) and poster presentations (15) at national and international forums. One hundred forty-one (141 citations (refereed and indexed in Scopus) have been noted, and 35 have been selected for participation in the current competition. The candidate has an *h* factor of 8 (according to Scopus).

5. Notes and recommendations

I have no comments or recommendations for the candidate.

6. Conclusion

Based on the analysis of the pedagogical, scientific and scientific-applied activities, I consider that the candidate Chief Associate Professor Slaveya Tencheva Petrova, Ph.D., meets the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations of the Agricultural University for its application. From the presented reference, it is clear that she is an established specialist in the field of ecology, with opportunities to teach students, with a clear scientific profile and achieved original and applied contributions.

All this gives me a reason to evaluate her overall activity POSITIVELY.

I would suggest to the honorable Scientific Jury to also vote positively, and the Faculty Council of the Faculty of Plant Protection and Agroecology at the Agricultural University - Plovdiv to choose the candidate Slaveya Tencheva Petrova as an "Associate professor" in the scientific specialty Ecology and Ecosystem Protection.

Date: 16/04/2024 PREPARED BY: .....

Plovdiv (Prof. Dr. Malgozhata Berova)