

STATEMENT

on the materials for participation in a competition for the academic position of „Associate Professor", field of higher education "Natural Sciences, Mathematics and Informatics", professional field "Earth Sciences", scientific specialty "Ecology and Ecosystem Protection", in the discipline "Microbiology", announced by the University of Forestry in SG no. 27 / 02.04.2021 /, procedure code FOR-AsP-0321-54

Candidate for participation in the competition:

Chief Assistant Professor Dr. Boyka Zdravkova Malcheva

Statement is prepared by:

Prof. Dr. Ekaterina Dimitrova Pavlova, Professor of PF 4.4. Earth Sciences, retired.

1. Brief biographical data about the candidate

Ch. Assistant Professor Dr. Boyka Zdravkova Malcheva was born on March 23, 1980 in the town of Sandanski. In 1999 - 2003 she studied at University of Forestry, specialty "Ecology and Environmental Protection" - Bachelor's degree. In 2005 she graduated with a master's degree, majoring in "Settlement Ecology". The educational and scientific degree PhD received in 2012 at the University of Forestry in the scientific specialty "Ecology and Ecosystem Protection". The topic of the doctoral dissertation is "Soil-microbiological indicators for establishing the status of anthropogenic soils in the Municipality of Sofia".

Ch. Assistant Boyka Malcheva conducts lectures and exercises in the disciplines: Microbiology, Microbiological control of the environment and Soil microbiology. In the period 2010-2019 works as ch. expert at the Regional Health Inspectorate in Sofia. Performs chemical research of environmental factors on products and goods important for the health of the population and other types of control over components of the environment - air, soil, water and others. She speaks English, French and Russian.

2. Conformity of the submitted documents and materials of the candidate with the required ones according to the Regulations for Development of the Academic Staff in University of Forestry

The documentation submitted by Chief Assistant Dr. Boyka Malcheva fully meets the type and content of the regulatory requirements in the Law on the Development of the Academic Staff of the Republic of Bulgaria and the Regulations for its implementation. The self-assessment report for fulfillment of the minimum national requirements, according to Art. 60, paragraph 4, item 8 of Regulations for Development of the Academic Staff of University of Forestry contains correctly filled in information about the scientific and scientific-applied activity of the candidate. It can be seen from the Information that Dr. Malcheva exceeds the requirements for holding the academic position of "Associate Professor" in PF 4.4 "Earth Sciences". She participates with 563.1 points with a required minimum of 400.

Indicator Group	Number of minimum points for "Associate Professor"	Completed number of points
A	50	50
B	100	100
G	200	321,1
D	50	92
Total	400	563,1

3. Evaluation of the teaching and teaching activity of the candidate

The academic employment of the candidate includes the following academic disciplines for Bachelor's degree - Microbiology for students majoring in "Ecology and Environmental Protection", "Agronomy" and "Plant Protection". In the Master's degrees she teaches discipline Microbiological Control in the Environment for the specialty "Settlement ecology", Soil Microbiology for the specialty "Forest management". She is the author of 1 curriculum and participated in the creation of 1 training laboratory. There are 3 printed laboratory manual and 1 in cyberspace. She has supervised 2 graduates who have successfully defended their thesis.

4. Evaluation of the scientific, scientific-applied and publishing activity of the candidate

4.1. Participation in scientific, applied and educational projects

From the submitted Reference and evidence to it it is seen that Ch. Assistant Professor Dr. Boyka Malchevae participated in 12 research projects funded by NIS-LTU, TU Varna, EAG-MAF, Dundee Precious-Chelopez. All projects are in the field of competition. There is also participation in projects with financial support of OP "Human Resources Development" and OF "Science and Education for Smart Growth", co-financed by the European Social Fund of the European Union, developed in LTU. Ch. Assistant Professor Dr. Boyka Malcheva has participated in 8 national and international conferences and 21 courses and seminars. For all courses and seminars she presented 21 documents - certificates. All of them are related to her main activities and responsibilities of the positions she holds.

4.2. Characteristics of the published scientific results

For participation in the competition Ch. Assistant Professor Dr. Boyka Malcheva presented a list of 37 titles, which includes the dissertation (A1), the abstract on it and 6 publications related to the dissertation. A book (G6) was published on the basis of the dissertation. He has published a monograph entitled "Microbiological activity of soils in an urban ecosystem" (B3). The monographic work examines the microbiological activity of roadside urbogenic soils in different vegetation from the region of Plovdiv. Publications in scientific journals, referenced and indexed in world-famous databases are 10 (G8), incl. 2 issues in journals with impact factor. In unrefereed journals with scientific review or in edited collective volumes - 19 publications.

Publications in foreign languages and in foreign journals predominate. There are 5 independent publications, 4 with two co-authors and the others have three or more co-authors.

The publications show a multifaceted interest in research and have a scientific and scientific-applied orientation in several areas:

First - determination of the microbiological and enzymatic status of urbogenic soils (G8.4, G8.6, G8.7, G8.11, G8.14, G8.15, G8.19); of compost substrates and biochar in their development and application (G7.5, G7.6, G7.7, G7.9); on reclaimed soils (G7.2, G7.4); on forest soils after fire and fertilization (G8.17, G8.18); on polar soils (G7.5), flooded soils (G8.2, G8.3), on soils affected by wind turbines (G8.5) and on soils with heavy metal pollution (A1, B3, G6, G8.1, G8.13).

Second - determination of the sanitary-microbiological control of food additives, validation and verification of chemical microbiological methods (G7.8, G7.10).

Third - development of statistical models for data processing - biological matrices (G8., G9.).

4.3. Reflection of the candidate's scientific activity in the literature (citation).

The cited publications in "Scientific publications, referenced and indexed in world-famous databases with scientific information or in monographs and collective volumes" are 7 pcs. (D10), in "Monographs and collective volumes with scientific review" -17 pcs. (D11) and in "Unreferred journals with scientific review" - 3 pcs. (D11).

The report shows that the publication activity of the candidate has a good reflection of the scientific production in the research work of Bulgarian and foreign authors.

4.4. Contributions in the works of the candidate (scientific, scientific-applied and applied).

In general, I accept the scientific and scientific-applied contributions formulated by the candidate in the reference. I indicate summarized the main ones:

1. Microbiological and biochemical indicators are defined as indices for exogenous impact on anthropogenic soils. Specific microbiological and enzymatic indicators for express determination of the degree of pollution and biological condition of soils in urban environments are proposed.

2. Methods for complex accounting of microbiological activity (ICMA) and enzymatic activity (IKEA) of urbogenic soils are proposed, which can be used for each soil type. Soil-microbiological maps have been developed, illustrating the relationship between the degree of soil contamination with heavy metals and the amount of total microflora.

3. The dynamics of microbiological indicators in a comparative study of options for compost production was monitored. The influence of biochar on the microbiological activity of agrogeogenic soils in different crops is analyzed.

4. The microbiological status of regenerated substrates from mine, soil depot and tailings pond with application of vermiculite and mineral fertilization is analyzed.

5. Evaluation of the personal contribution of the candidate

Although the majority of the publications are co-authored, which is related to the complex nature of the research, the personal contribution is visible in the content of the monograph and the publications of which she is the sole author. For co-authored publications, I accept that participation is equal.

6. Critical remarks and recommendations

I have two remarks to the candidate:

1. Contributions will be more convincing and reasoned if they are in a more general form.
2. The term "soils under different types of vegetation" should be replaced in future publications by "soils with different types of vegetation", because soil is the main environment of terrestrial plants.

7. Personal impressions

I know Ch. Assistant Professor Dr. Boyka Malcheva from the time of her studies at LTU and later as a teacher. My impressions are that she is motivated, responsible and precise in performing the undertaken tasks. The scientific production shows that she works successfully in a team and is a sought-after partner in performing complex tasks.

8. Conclusion

Based on the mentioned research, teaching and applied results, as well as the fact that in terms of volume and content, the scientific production fully covers all the requirements for the academic position "Associate Professor", I confidently propose the candidate **Ch. Assistant Professor Dr. Boyka Zdravkova Malcheva** to take the academic position of „Associate Professor" in the discipline "Microbiology" from PF 4.4. Earth sciences.

The statement was prepared by:

(Prof. Dr. E. Pavlova)

The statement is delivered: 9.8.2021.