



OPINION

regarding the competition for "associate professor" in the scientific speciality "Plant Protection", announced in the State Gazette No. 69 of 16.08. 2024 with candidate Chief Assistant Mariana Krasimirova Petkova, PhD by Prof. Ivan Dimitrov Kiryakov, PhD from Dobrudzha Agricultural Institute - General Toshevo, appointed according to Order No. RD 16-1186/22.10.2024 of the Rector of the Agricultural University - Plovdiv as Member of the Scientific Jury

1. Brief presentation of the candidate.

Chief Assistant Mariana Krasimirova Petkova, PhD was born on 11.11.1971 in Plovdiv. In 1997, she obtained the educational qualification degree "Master" at the Agricultural University - Plovdiv, speciality "Plant Protection". During the period April 1999 - September 2002, she was a doctoral student. In 2002, she obtained the educational and scientific degree "Doctor" in the scientific speciality "Molecular Biology" at the University of Kobe, Japan. During 2003-2006, she was a chief assistant professor at the Department of "Protein Biochemistry" at the University of Osaka, Japan. From 2010 to 2014, she was a chief assistant professor at the Department of "Genetics and Selection", and from 2014 until now she held the same academic position in the Department of "Microbiology and Environmental Biotechnologies" of the Agricultural University, Plovdiv. From 2006 to 2016, she participated in five training programs abroad and Bulgaria. She took part in 11 international scientific forums in Bulgaria and abroad.

2. General description of scientific output.

In the competition for "associate professor" Mariana Krasimirova Petkova, PhD participated with a total output of 44 works, grouped as follows:

- ❖ Scientific publications in the nomenclature speciality - 44 pieces, of which:
 - Publications related to the doctoral dissertation - 4 pieces, which are not subject to consideration;
 - Publications with an impact factor - 23 pieces;
 - Publications in peer-reviewed and refereed scientific journals - 13 pieces;
 - Publications in conference proceedings - 4 pieces;

The personal participation of Mariana Petkova, PhD in the indicated 44 works is illustrated by the fact that one is independent, in 17 - she is the first, in 13 - she is the second, and in the remaining 13 - she is the third and subsequent author.

- ❖ Textbooks - 0 pieces.
- ❖ Study guides - 0 pieces.

40 items are subject to analysis in the preparation of the opinion.

3. Teaching activity.

The teaching activity of Mariana Petkova, PhD dates back to 2014, as a senior assistant at the Department of Microbiology and Environmental Biotechnologies at the University of Plovdiv, in the Bachelor's and Master's degrees.

The candidate's academic employment.

The candidate conducts exercises in the following disciplines: "General Microbiology" with the students of the Bachelor's degree program in full-time and part-time study in 8 specialities, including Public Health; "Ecology of Microorganisms" in the Bachelor's degree program in full-time and part-time study in Public Health and Environmental Protection; "Microbial Preparations in Fruit Growing" in the Master's degree program. She conducts lectures and exercises in the discipline "Molecular Biology" in the Master's degree program in the Master's degree program in Integrated Plant Protection; as well as in the discipline "Introduction to Agricultural Education" with the students of the Bachelor's degree program in the specialities - Public Health, Environmental Protection. The full-time classroom employment for the period is 4348.3, and for the last five years, it is 2097.3.

The teaching activity is supplemented by the supervision of 8 successfully defended graduates.

Developed curricula.

The candidate has developed a curriculum for the discipline "Molecular Methods for Analysis in Plant Protection" in the Master's Degree Program.

4. Scientific research activity.

Areas of publication.

Following the publication activity of Mariana Petkova, PhD several areas of research are outlined, related to the isolation, identification and competence, using modern methods and approaches, of microorganisms - bacteria, fungi and yeasts, which are: i) new to the country of phytopathogens (G22); ii) microorganisms effective in degrading herbicides accumulated in the soil (B3); iii) endophytic microorganisms, stimulating the efficiency of plants and their increased tolerance to biotic and abiotic stress (B4, B5, B6, B7, B8, B14, G7, G13); iv) isolation of entomopathogenic fungi, potential bioinsecticides (B4, B5, B6, G7); v) microbial communities involved in the bioprocesses of sludge and compost purification (G10, G11, G17); vi) amyolytic lactic acid bacteria isolated from spontaneously fermented dough (B2, B9, B10, D5, D6, D8, D13). The efficacy of gamma irradiation on the fatty acid composition and susceptibility to powdery mildew (*Erysiphe cruciferarum*) of oilseed rape plants (B1) was studied.

Citation and referencing of scientific production.

According to the attached reference for the minimum national requirements, the distribution of scientific works is as follows: i) Subgroup B4 includes 10 works, of which 3 are with Q2, 2 - Q1 and 1 - Q4, with the total number of points being 119.5, and the total IF in this indicator is 19.314; ii) 23 works are attributed to G7, with 11 being in quartile journals (Q1-Q4). The same number of points is 237, and the IF is 15.35. 7 articles are attributed to G8. The total number of points for the indicators in group G amounts to 256.8 with a required 200; iii) The candidate's scientific activity results are cited in 40 publications (D13), with 18 of them being in quartile journals. The total number of points for indicator D is 376.3 with a required score of 50.

Participation in scientific projects.

Mariana Petkova is the leader of one and a participant in 4 international or national scientific projects. In parallel, she is the leader of four and a participant in three internal departmental research projects. Participation and/or leadership in these projects is a

certificate of the candidate's professionalism, and his ability to work in scientific teams and to lead scientific research projects.

5. Comments and recommendations.

I have no comments regarding the research and publication activities of Mariana Petkova, PhD. Based on the areas of her research and her competence in applying modern genomic techniques, I recommend that the candidate strengthen her research activities in the field of phytopathogenic microorganisms.

6. Conclusion.

Based on the analysis of the candidate's pedagogical, scientific and scientific-applied activities, I believe that Chief Assistant Mariana Krasimirova Petkova, PhD meets the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Act on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations of the Agrarian University for its Implementation. Based on the presented scientific production, highly appreciated by the scientific community in our country and abroad, the rich teaching experience in the professional field of Plant Protection, the significant number of successfully defended graduates, the participation and/or leadership of national and international scientific projects give me reason to evaluate her overall activity **POSITIVELY**.

I would like to propose to the esteemed Scientific Jury to also vote positively, and the Faculty Council of the Faculty of "Plant Protection" at the Agricultural University - Plovdiv to elect Chief Assistant Mariana Krasimirova Petkova, PhD as "**associate professor**" in the scientific specialty of Plant Protection.

Date: 29.11.2024
Plovdiv

PREPARED BY
OPINION:


(Prof. Dr. Ivan Kiryakov)