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СЕЛСКОСТОПАНСКА АКАДЕМИЯ

ИНСТИТУТ ПО ПОЧВОЗНАНИЕ, АГРОТЕХНОЛОГИИ И ЗАЩИТА НА РАСТЕНИЯТА „НИКОЛА ПУШКАРОВ“

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REVIEW

on the documents submitted for participation in a competition for the academic position of "Associate Professor" in the professional field "6.1 Plant Breeding", scientific specialty "Soil Science" for the needs of the Scientific Department "Forest Genetics, Physiology and Cultures", State Gazette, issue. 35 / 27.04.202.

Candidate for participation in the competition: Chief Assistant Dr. Vanya Georgieva Kachova, Institute of Forestry - BAS.

Reviewer: Prof. Irena Dimitrova Atanasova, ISSAPP "N. Poushkarov", professional field "6.1 Plant Breeding", scientific specialty "Soil Science", member of the scientific jury, determined by Order № RD 15-277, 30.06.2021 of the Director of the Forest Research Institute - BAS.

Brief biographical data. Chief Assistant Dr. Vanya Kachova was born on April 20, 1964 in the town of Vidin, where she completed her secondary education at the Dimitar Blagoev Polytechnic High School. In 1982-1988 she was a chemistry student at the Faculty of Chemistry, Sofia University "St. Cl. Ohridski "and graduated with a MSc degree in analytical and organic chemistry. In 1996 he started working as a chemist in the laboratory of "Forest Soil Science", Institute of Forestry - BAS, where she directly applied her knowledge and skills. During the period 18.01.1999 - 11.04.2007 is a research associate in the same institute, Department of "Forest Ecology" with interests mainly in the field of soil science and soil chemistry. From 2007 to the present she has been working as a senior assistant in the Department of "Forest Genetics, Physiology and Cultures".

Compliance with the minimum requirements according to the Regulations for acquiring scientific degrees and holding academic positions at the Forest Research Institute - BAS.

According to the self-assessment reference submitted by the candidate with the scientometric indicators in accordance with the requirements of Law for development of academic staff in the Republic of Bulgaria (ZRASRB) and the Regulations on the terms and conditions for obtaining scientific degrees and holding academic positions at the

Forest Research Institute of Forestry - BAS, as well as the specific requirements of the Forest Research Institute for acquiring scientific degrees and holding academic positions, it is evident that Assistant Professor Dr. Vanya Kachova meets the relevant indicators - category A and exceeds the necessary points to meet the minimum requirements for indicators in categories V, G, D and E.

General description of the presented materials.

The review documents are presented in detail and accuracy, and there is a clear correspondence to the minimum mandatory criteria from the chart with scientometric indicators. The candidate presents 19 scientific publications in issues that are referenced and indexed in world-famous databases with scientific information and 8 papers and reports published in non-peer-reviewed journals with scientific review or published in edited collective volumes. Four of the papers are in journals with impact factor, and in 16 papers the candidate is the first author, incl. in 3 articles with impact factor, which definitely highlights her leading role in the presented studies.

Main directions in the research work of the candidate and scientific and scientific-applied contributions.

The main directions in the research work of the candidate are related to the in-depth study of the behavior of heavy metals in natural soils under forest plantations, but also in Anthropogenic and Technogenic soils. Another part of the presented studies concerns the assessment of the condition of soils from urban environments under forest parks related to the behavior of potentially toxic elements in the soils. The applicant is well acquainted with the chemical and physicochemical characteristics of soil adsorbent with regard to heavy metal pollution and in particular, the role of biotic and abiotic soil components in the adsorption and mobilization of polluting metals. In addition, she very competently applies the experimental apparatus for analysis of soil characteristics and properties.

The presented publications synthesize the main scientific-fundamental and scientific-applied contributions of the candidate, e.g. a change in the acid-base equilibrium in soils from urban areas under oak plantations in the Sofia region has been established. Alkalization has been found in the surface soil horizons in comparison with subsurface ones in urban soils. Weaker participation of organic colloids in the formation of the total sorption capacity is established in comparison with the soils formed under natural conditions.

New developments concerning the supply of classical and innovative remediation methods for contaminated soils are presented, as well as assessment of health condition of tree species and the use of agroforestry practices. Based on scientifically

substantiated results, solutions have been proposed for reclamation of disturbed terrains and contaminated soils from major industrial and coal mining regions in the country.

Reflection of the candidate's scientific publications in the literature.

There are 21 citations (280 points) on papers presented in the present competition for the academic position of "Associate Professor", of which 14 are in Web of Science and Scopus, which shows that the candidate exceeds the required minimum requirements of 100 points and her scientific research finds a very good response in scientific journals referenced and indexed in world-famous databases.

Participation of the candidate in scientific projects, curricular and extracurricular classes, scientific forums and review activity.

The candidate is leader of 4 projects and participant in 4 other national and international projects financed from the budget subsidy of Bulgarian Academy of Sciences BAS and European Commission EC, and has participated in curricular and extracurricular classes, scientific forums and was engaged in reviewing process. These activities demonstrate a very good potential for realization of her scientific interests nationally and internationally.

Assessment of the candidate's personal contribution

As mentioned above, the presented table with scientometric indicators and summaries of scientific papers show the outstanding and dominant personal contribution of the candidate, as well as her ability to collaborate with scientists from other scientific units both nationally and abroad.

Critical remarks and recommendations

I have no significant remarks on the materials submitted for review. I recommend in the future more active publication in journals with impact factor and submitting project proposals with external funding, in view of her greater research experience and lasting cooperation with soil scientists and soil chemists at home and abroad.

Personal impressions

I know Assistant Professor Dr. Vanya Kachova from the period of our studies in the Faculty of Chemistry, Sofia University "St. Kl. Ohridski ", our joint research work in the field of soil chemistry and I have direct impressions of her personal qualities and

scientific interests. She is an extremely active and committed specialist who takes her tasks seriously and responsibly and approaches scientific issues professionally, using the large educational capacity acquired during our training at the Faculty of Chemistry at "St. Kl. Ohridski " University. As mentioned above, Assistant Professor Dr. Vanya Kachova is an expert with extensive research experience and a vision for launching and developing research projects related to solving important environmental problems in hotspots of urban areas and the mining industry in our country.

Conclusion

As a result of comprehensive assessment of the presented materials and scientometric indicators of Assistant Professor Dr. Vanya Georgieva Kachova, I declare that she meets the mandatory criteria for holding the academic position of "Associate Professor" in accordance with the requirements of Law for development of academic staff in the Republic of Bulgaria (ZRASRB) and the Regulations on the terms and conditions for obtaining scientific degrees and holding academic positions at the Forest Research Institute of Forestry - BAS and, therefore I suggest that Professor Dr. Vanya Georgieva Kachova obtains the academic degree "Associate Professor" in the field of higher education 6. "Agricultural Sciences and Veterinary Medicine", professional field 6.1. "Plant Breeding", scientific specialty "Soil Science" at the Institute of Forestry - BAS.

Date: 05.08.2021

Member of the Scientific Jury :

Prof. DSc. Irena Dimitrova Atanassova