

OPINION



Regarding: Competition for "professor" in the scientific specialty "Ecology and protection of ecosystems", announced in State Gazette no. 62 of 21.07.2023 year with candidate - **Assoc.Prof. Dr. Stefan Ivanov Shilev** from the Department of "Microbiology and Environmental Biotechnologies" at the Faculty of Plant Protection and Agroecology at the Agrarian University - Plovdiv

The opinion was prepared by: Prof. Dr. Mariana Genova Doncheva – Boneva, higher education area 4. Natural sciences, mathematics and informatics, professional direction 4.4. Earth Sciences, scientific specialty "Ecology and Ecosystem Protection", designated as a member of the scientific jury by Order No. RD-16-898/ 25.09.2023 of the Rector of the Agricultural University - Plovdiv.

1. Brief introduction of the candidate.

Assoc.Prof. Dr. Stefan Shilev was born on 6.12.1973 in the city of Plovdiv. In 1996, he graduated his higher education, majoring in "Agroengineering - Plant Protection" at the Higher Agricultural Institute - Plovdiv. In 1998, he started working as an assistant at the Agricultural University - Plovdiv. In 2003, he obtained a scientific educational degree "doctor" at the University of Córdoba - Spain. From 2010 to the present, he is an associate professor in the scientific specialty "Ecology and Ecosystem Protection" (Ecology of microorganisms) at the Agrarian University - Plovdiv.

During separate periods, Associate Professor Shilev held other positions: 2012-2014 he was Director of the "Ecology and Waste Management" Directorate in the Municipality of Plovdiv; 2014-2020 is the Director of Regional Environment and Water Inspection - Plovdiv; People's representative in the 47th and 48th National Assembly of the Republic of Bulgaria.

Assoc.Prof. Shilev has completed several long-term specializations - one in Bulgaria (3 months in 1998 at the Faculty of Biology of Sofia University "Cl. Ohridski") and three 8 months at the University of Cordoba - Spain: (1999-2000; 2007 with a scholarship from the Ministry of Foreign Affairs of Spain; 2008 - under the PD-7 project of the Scientific Research Fund at the Ministry of Education and Science (post-doctoral). In 2002, he conducted a short-term specialization under NATO in the Czech Republic. He participated in 3 training courses (2007, 2008 and 2009) related to waste management and reclamation of mining areas in Germany and Italy. He was a lecturer in a training course 2007, Advanced Study Institute - NATO: "Uncertainty in environmental modeling and implications for political solutions", Croatia.

Assoc.Prof. Shilev actively participates in the activities of the Agrarian University as: member of the Faculty Council of the Faculty of Plant Protection and Agroecology, Member of the Academic Council of AU-Plovdiv - 2007-2011 and from 2020, Member of the Erasmus Program Commission of Faculty of Plant Protection and Agroecology - from 2020, Member of the Eligibility Commission under professional direction 4.4. - from 2020, Member of the Governing Board of the Center for Scientific Research, Technology Transfer and Protection of Intellectual

Property - from 2020, Member of the Temporary Scientific Expert Commission at the National Fund of Scientific Research under professional direction 4.4. Earth Sciences - 2021 and 2023, Chairman of the AU General Assembly - 2020-2021.

2. General description of the scientific production.

Indicators	Indicator groups	pcs.	points
In the associate professor's contest, they participate with a total output of publications - a number of publications, grouped as follows:			
• Scientific publications on the nomenclature speciality		26	
➤ Publications related to the doctoral thesis that are not a subject of consideration	A	6	50
➤ Publications related to the acquisition of the academic position "docent", which are not subject to review		35	
➤ Habilitation thesis - scientific publications (not less than 10) in publications that are referenced and indexed in a world- scientific database	B4	10	144,5
<i>Publications with impact factor</i>		5	IF=18,065
➤ Published book based on defended doctoral thesis for awarding educational and scientific degree "Doctor"	Г7	10	233,3 2
<i>Publications with impact factor</i>		7	IF =13,614
➤ Scientific publications in referenced and indexed in world-renowned databases scientific journals	Г8	5	22,33
➤ Scientific publications in non-refereed peer-reviewed journals or in edited collective volumes	Г9	1	2,5
Total braille points	Г(7÷9)		258,1 5
• Participation in scientific forums			
✓ Abroad		3	
✓ Bulgaria		13	
• <i>The personal participation of the candidate in the mentioned publications is illustrated by the fact:</i>			
✓ Independently		3	
✓ First author		11	
✓ Second author		3	
✓ Third or following author		9	
<i>Textbooks – pcs.</i>		0	
<i>Study guides – pcs.</i>		1	
<i>They are subject to analysis to prepare the opinion – pcs.</i>		26	

Assoc.Prof. Shilev participated in the competition for "professor" with 26 scientific works. In the list of scientific works according to group B indicators, according to the requirements, 10 pieces are included, but the first scientific work (B1) was published in 2007, which was before the competition for "associate professor". In the list of publications from group D, there are also those that were published before the competition for "associate professor". These are: from D7 - No. 11, published in 2006, from D8 works with Nos. No. 21-23 were published in 2008, 2004, and 2005 respectively and from G9 - No. 26 in 2008. In the list of publications submitted by the candidate for the " associate professor" competition, these scientific works are not present, which is why I accept them for review for the current competition.

Of the scientific publications, 12 nos. are in publications with an impact factor. The scientific works presented by Assoc.Prof. Shilev in group of indicators (B) and (D) collect respectively - 144.5 p. and 258.15 p, which fulfills the minimum requirements for professional direction 4.4 Earth Sciences.

3. Teaching activity.

Academic employment of candidates

Assoc.Prof. Shilev has over 25 years of teaching experience at AU-Plovdiv. From the reference issued by the Management of AU for the hours held by the candidate for the period 2018-2023. it can be seen that he meets the statutory requirements for educational employment. In total, during the period, he had 2,707 hours of academic employment, varying in individual years from 879 hours (2018/2019 academic year) to 246 hours (2021/2022 academic year). Assoc.Prof. Shilev teaches the disciplines: Microbiology, Waste Management, Ecology of Microorganisms, Technologies for Solid Waste Processing and Circular Economy and Resource Utilization for the Bachelor's Degree in Agronomy-Field Science, Viticulture-Horticulture, Ecology and Environmental Protection , Plant protection and for master's courses - Ecology of settlement systems, Protection of biological diversity, Plant protection, Plant medicine.

The teaching activity is complemented by supervision of 4 PhD students, of which 2 have defended their dissertations, 1 has been awarded with the right to defend and 1 is in the process of training. Assoc.Prof. Shilev is the supervisor of 16 graduates, including 12 from Bachelor's Degree and 4 from Master's Degree.

Published study materials

In 2020, Assoc.Prof. Shilev published, in co-authorship with Kr. Sapundjieva, Ml. Naydenov, Y. Kartalska, guide to "Microbiology".

Developed curricula

Assoc.Prof. Shilev has developed curricula for 9 disciplines for the Bachelor's degree program - "Microbiology" (for 3 specialties in AU), "Ecology of microorganisms" (for 2 specialties), "Waste management", "Utilization of agricultural waste" (for 2 specialists), "Technologies for processing solid waste", "Approaches to the purification of agro-ecosystems", "Biodegradation and bioremediation" and 6 disciplines for Master's Degree - "Microbiology", "Waste

management", " Circular Economy and Resource Recovery', 'Municipal Environmental Programs', 'Microbial Communities of Environmental Components', 'Biomass Processing and Recycling'. Two study programs in a foreign language have been developed for Erasmus study - Environmental microbiology, General microbiology.

4. Scientific research activity.

Areas of publication

Assoc.Prof. Shilev's scientific research can be summarized in several directions:

- Studies on soil contamination with heavy metals and their remediation using microorganisms. The aim is to limit the entry of toxic elements into agricultural crops.
- Studies on the role of certain microorganisms in improving yields in agricultural crops.
- Studies on technologies for composting agricultural, food and wastewater waste with the aim of the most efficient utilization of bio-waste and application of the resulting compost.
- Application of a new approach and technology in the study of microbiological diversity in compost from different biological wastes depending on environmental conditions.

In the report on the contributions, the candidate has formulated 35 contributions from his scientific activity, including 21 – scientific, 11 – scientific and applied, 2 – applied and 1 – methodical. I accept the submitted contributions except for 1.1.5; 2.1.3; 2.2.1; 3.1.1 and 4.1.2. They state that the results of individual studies have been published in refereed publications.

Citation and referencing of scientific production.

The documents present a list of 147 citations of 8 publications of the candidate, of which 145 nos. are citations from foreign authors and 2 from bulgarian - all are in indicator D10 (in scientific publications referenced and indexed in world-famous databases), which is proof that the scientific activity of Assoc.Prof. Shilev is known and appreciated by many foreign scientists. A link to 620 citations is presented. The quantitative assessment of the citations repeatedly exceeds (20 times) the minimum requirements for academic position "professor" under professional direction 4.4. Earth Sciences.

Participation in scientific projects.

According to group E indicators, participation in 17 research and educational projects is presented in the competition documents. Assoc.Prof. Shilev is the head of 12 of them, including seven international ones, three from the "Scientific Research" fund and two internal institutional ones. In addition, he is a member of the collective in two other projects under the "Scientific Research" fund, two projects financed by the Ministry of Education and Science and one internal institutional one. As a project manager, Assoc.Prof. Shilev has attracted over BGN 650,000 for the Agrarian University.

This group of indicators includes the two PhD students supervised by Assoc.Prof. Shilev, as well as the published manual on "Microbiology". According to indicators in group E, the minimum requirements were also exceeded more than 4 times (648p.)

5. Notes and recommendations.

I have the following question for the candidate:

- Why do the list of publications in the competition for "associate professor" include those published after habilitation, while the list for the current competition includes scientific works published before the competition for " associate professor" (2010) ?

and the following notes:

- In the lists of publications both in the competition for "associate professor" and for the current competition, it would be more appropriate to arrange the scientific works by the year of publication, which will make it possible to more easily follow the sequence in the scientific activity.
- Contributions could be presented in a concrete and systematic manner, without unnecessary introductory explanations, which would enable them to stand out with greater weight.

6. Conclusion.

Based on the analysis of the pedagogical, scientific and scientific-applied activity of the candidate, I believe that:

Assoc.Prof. Dr. Stefan Ivanov Shilev not only achieves, but also exceeds the minimum National requirements for all groups of indicators for acquiring the academic position of "professor", has teaching experience, significant scientific output, is well known and appreciated by foreign and bulgarian scientists and my assessment fully meets the requirements of the Law for the Development of the Academic Staff in Republic of Bulgaria, and the Regulations for the Implementation of the Law on the Development of the Academic Staff at the Agrarian University.

This gives me the reason to propose to the honorable Scientific Jury to vote positively, and the Faculty Council of the Faculty of Plant Protection and Agroecology at the Agrarian University - Plovdiv to elect Assoc.Prof.Dr. Stefan Ivanov Shilev as "Professor" in the scientific specialty "Ecology and Ecosystem Protection ", professional direction 4.4. Earth Sciences.

Date: 31.10.2023r.

Plovdiv

Reviewer


(Prof. Dr Engr. M. Doncheva-Boneva)