

OPINION

To the materials in the competition for the academic position "**PROFESSOR**" in Professional field 4.3. Biological Sciences, specialization Microbiology,

FROM: prof. Dr. Svetla Danova, DS.c., Head of the Microbial Genetics Laboratory, Department of General Microbiology, Stefan Angeloff Institute of Microbiology, BAS

1. REGARDING THE COMPETITION:

The competition for "Professor" (with specialization in Microbiology) is announced in SG no. 43 of 10.06.2022 for the needs of the Biotechnologies Department, "Biofuels and Bioremediation" Laboratory at the Stefan Angelov Institute of Microbiology, BAS.

The scientific jury was assigned by order I-98/05.07.2022 to the Director of the Institute of Microbiology "Stefan Angelov" - BAS (IMikB-BAS). The procedure for the disclosure and announcement of the competition, based on the Law on the Development of the Academic Staff of the Republic of Bulgaria (ZRASRB) and its Regulations, has been complied with. All the documents for participation in the competition have been arranged very accurately and have been provided for evaluation within the terms established by the Regulation of the ZRASRB.

At the first meeting of the scientific jury, I was chosen to prepare this opinion. As a member of this jury, I declare that I have no joint publications, projects or conflict of interest of any other nature within the meaning of para. 1 items 3 and 5 of the ZRASRB with the evaluated candidate in the competition.

2. BRIEF INFORMATION ABOUT THE CANDIDATES IN THE COMPETITION

The only candidate in the competition is Dr. Lyudmila Vladimirova Kabaivanova, who is currently an Associate Professor and Deputy Director of the Institute of Microbiology. Since 2020, she is the Head of the "Biotechnology" department and the "Bioremediation and biofuels" laboratory, for whose needs she is the competition.

The entire academic career of the candidate, over 29 years, has been at the "Stefan Angelov" Institute of Microbiology - BAS, She started in 1993 as a specialist – Microbiologist, following she gradually rose through Assistant Prof. and Chief Assist. Prof. and was habilitated as Assoc. Prof. in 2011.

Graduated with honors, Master in Microbiology and Biochemistry from the Faculty of Biology of SU "Kliment Ohridski", she is set up to explore for the career of a research scientist

immediately after completing higher education. In the course of the subsequent doctoral studies and professional development, Lyudmila Kabaivanova acquired new knowledge, skills and competence as a microbiologist and researcher looking for new scientific challenges. The professional realization up to the present moment is entirely related to the theme of the competition and reflects the current and prospective directions of the current programs for environmental protection in Bulgaria and Europe and the possibilities for the utilization of waste products.

As can be seen from the submitted CV, the candidate has successfully combined research and administrative work as the Chairman of the National Seminar on Biotechnology, as the Scientific Secretary of the Institute (from 2016 to 2020) and as Deputy Director for 2 years.

3. FULFILLMENT OF THE REQUIREMENTS FOR THE ACADEMIC POSITION "ASSOCIANT PROFESSOR"

3.1. Evaluation of the general scientific production and scientometric indicators of the candidate

Assoc. Prof. Kabaivanova presents a list of 115 scientific works, predominantly in refereed international journals, forming a high total impact factor of 55.554. In 66 of them, she is the lead author. Thirty-one of the works were published after the competition for Docent and were referenced in international publications with *Q1 to Q4*. Twenty-two out of a total of 51 refereed scientific works, have been participated in a competition for an Assoc. Prof. and are not subject to evaluation under the current competition. The importance of scientific works can be judged by the high number of citations - 450, on the basis of which the candidate forms h - factor is 12, (according to Scopus and Web of Science). It is important to note that the thematically the works with which she participated in the competition present various aspects and innovations in the field of Bioremediation, environmental protection and waste control.

It is also important to note that the thematic works with which she participates in the competition present different aspects and novelties in the scientific theme of the competition. Original aerobic biodegradation processes are presented, including the detoxification abilities of microorganisms and the study of optimal conditions for biodegradation and biosorption to solve a number of environmental problems. Undoubtedly, the work on anaerobic biodegradation processes concerning the assimilation of various wastes, with the aim of obtaining renewable energy carriers with the participation of specific microbial communities as an alternative to fossil fuels. This is especially relevant today, in the context of the intensifying

energy crisis in our country and in Europe. There are important scientific and theoretical contributions including also such as original and confirmatory character achievements.

Assoc. Prof. Kabaivanova is presented in the competition with scientific development for the inclusion of waste products and plant residues from agricultural practice and the use of the activity of bacteria and fungi in the biodegradation process to obtain compost rich in nutrients, with the aim of improving soil fertility for sustainable agriculture and clean eat In addition to the scientific importance, the presented articles reveal the applied potential of various microbial cenoses, microalgae for food, for obtaining new biologically active substances and therapeutics, and as antitumor agents for application in biomedicine. Thematically related to them are articles on the synthesis of new biologically active substances from bacteria, characterized by their properties as potentially applicable as an alternative to conventional medications.

3.2. Fulfillment of the minimum national requirements according to law (ZRASRB)

In accordance with the requirements of ZRASRB and the Regulations to it, the only candidate for the academic position "Professor" in the competition submits a Report on the fulfillment of the national requirements, according to the individual indicators, and a Report on the fulfillment of the additional requirements for holding the position "Professor", according to the Rules of the ImicB-BAS. A detailed list of 69 participations in scientific forums at home and abroad is presented, of which 36 are participations after habilitation. It is clear from the competition documents that Assoc. Prof. Kabaivanova performs and even exceeds the minimum national requirements as follows:

According to indicator **A -50 points**. The candidate received the educational and scientific degree "Doctor" (*01.06.12 Microbiology*) in 2007. I would like to note that the topic of the dissertation "Degradation of nitrile compounds with cells of *Bacillus* sp. immobilized in different carriers. UG-5B, producer of thermostable nitrilase" is also in the direction of the scientific unit that announced the competition.

- According to **Indicator B**: The candidate appears with 6 scientific publications in refereed editions, which are indexed in world-famous databases with scientific information (Web of Science and Scopus), which form **102 points instead of 100 p.**

- according to Indicator D, evidence is presented for 226 points out of the required 200 minimum points. They are formed by 15 articles in 11 of which she is the lead author.

- According to indicator 11 in **Group D: 200 p.** (if only 100 t are needed), formed by 100 quotes. The citations from the Web of Science and Scopus databases are presented in the

detailed reference. This citation of works in prestigious scientific publications is the best proof of their importance.

- According to Indicator E – **236.6 points (instead of the required 150 points)**, they are formed by supervision of a successfully defended doctoral student (50 points) from 1 supervision (20 points) and 5 participations in a national scientific project (50 points); from 1 Guide (50 points) and participation (20 points) in an international scientific project and from Attracted funds for projects led by the candidate - 46.6 points

3.3. Fulfillment of the additional requirements of the "Stefan Angelov" Institute of Microbiology, BAS

The candidate, Dr. L. Kabaivanova, successfully fulfills all indicators, such as in terms of number of citations (450), Impact factor (55,544) and project activity, she presents higher ones. Prof. Kabaivanova has two successfully defended doctoral students.

4. CONCLUSION

I highly appreciate the scientific research and administrative activity of Assoc. Lyudmila Kabaivanova. I believe that with her long-term and dedicated research work, proven professionalism and organizational qualities and experience in project initiatives, she will contribute to the development of the Biotechnology Department and the Biofuels and Bioremediation Laboratory.

The above cited gives me reason to recommend to the esteemed Scientific Jury to award the position "Professor" in Professional field: 4.3 Natural Sciences to Assoc. Ludmila Vladimirova Kabaivanova.

19.10.2022

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(Prof. Svetla Danova, DS.c)