

STATEMENT

From Professor Milen Ivanov Georgiev, PhD
Laboratory of Metabolomics, The Stephan Angeloff Institute of Microbiology – Bulgarian
Academy of Sciences (BAS)

Regarding a competition for the academic position professor, professional area 4.3. Biological science (Microbiology) for the needs of Department Biotechnology, Laboratory Bioremediation and biofuels.

The present statement is prepared in agreement with the order number I-98 from 05.07.2022 of the Head of the Stephan Angeloff Institute of Microbiology – BAS (IMicB), following a decision of the Scientific council of the IMicB with Protocol number 32 from 26.05.2022, announce in the State gazette no 43 from 10.06.2022.

Applicant(s): Assoc. Prof. Lyudmila Vladimirova Kabaivanova, PhD – the only candidate.

The set of documents agrees with the formal requirements of Chapter IV, Section IV. Terms and orders for acquisition of academic position “Professor” from the Rules for terms and orders for acquisition of scientific degrees and occupation of academic positions of the Stephan Angeloff Institute of Microbiology at Bulgarian Academy of Sciences and contains all necessary documents for evaluation.

I, personally, know the applicant well; I have no joint publications with her and hence have no conflict of interest to declare, according to the applicable law.

Short biographical data and characteristics of scientific interests of the candidate

Assoc. Prof. Lyudmila Kabaivanova, PhD was born on February 20, 1968. She obtained a higher education diploma (1992) in the discipline biochemistry and microbiology from University of Sofia “St. Kliment Ohridski”. In 2006 she successfully defended a PhD thesis at IMicB – BAS. Her career went through all the steps of typical scientific development (microbiologist, assistant professor and at present associated professor) within IMicB – BAS.

Assoc. Prof. Kabaivanova headed the Department of Applied Microbiology between 2016 and 2020, and as from 2020 till now the Department of Biotechnology and Laboratory of Bioremediation and biofuels. She took a position of IMicB – BAS’s Scientific secretary and at present she serves as Deputy director of the same institute.

Evaluation of the submitted set of documents

Assoc. Prof. L. Kabaivanova submitted 21 scientific papers (6 under criterion B and 15 under group of indicators G) for the current competition call. The publication record of assoc. prof. Kabaivanova fully corresponds with the requirements of IMicB – BAS for promotion of the academic staff.

It is worth of pointing out that assoc. prof. Kabaivanova has published her data in established international journals such as Polymers (Q1), Life (Q2), Engineering in Life Sciences (Q2) and etc.

Main fundamental and applied contributions

The scientific activity and contributions of assoc. prof. Lyudmila Kabaivanova, PhD are focused in the following domains:

1. Aerobic biodegradation processes, including the detoxification abilities of microorganisms and study of the optimal conditions for biodegradation and biosorption to solve a number of environmental issues.
2. Anaerobic biodegradation processes concerning the absorption of various wastes in order to obtain renewable energy sources with the participation of specific microbial communities as an alternative to the fossil fuels.
3. Incorporation of waste products and plant residues from agriculture and usage of the bacterial and fungal biochemical machineries in biodegradation processes to obtain nutrient-rich composts in order to improve soil fertility for sustainable agriculture and clean food.
4. Microalgae – food and therapeutic applications, obtaining new biologically active substances from algae in order to study their potential as antineoplastic agents from use in biomedicine.
5. Obtaining new biologically active substances from bacteria, evaluation of their properties and their activity on certain types of neoplasms, potentially applicable as an alternative to the conventional therapeutics.

It should be noted that the set of publications, submitted to the present professor's call, are fully in line with the call's domain, namely 4.3. Biological science (Microbiology).

According to the self-stated reference sheet for the original scientific contributions, 20 contributions are listed, with whose wording I fully agree.

Reflection of candidate's publications in national and international literature

The scientific record of assoc. prof. Kabaivanova, PhD appeared in reputable scientific journals, which fully explains the number of citations received – in total 450. The H index of assoc. prof. Kabaivanova is 12 (according to the submitted set of documents).

Assoc. Prof. Kabaivanova, PhD is a member of Bioencapsulation Research Group (1996-2013), France and NPO Environmental engineering and protection (since 2019); she is a member of the Scientific council of IMicB – BAS, Deputy chair of the General assembly of IMicB – BAS (2013) and representative of the General assembly of BAS (2018-2020).

She took part/coordinated 19 scientific projects with significant funding and substantial income for the host institute.

Teaching activity

References for the teaching activity of assoc. prof. Kabaivanova, PhD are dully presented, which I found as solid – she was an honorary lecturer at University of Chemical Technology and Metallurgy, Sofia (2008-2010), took part in the program Student practices (240 hours), trained 6 diploma students, 4 trainees as well as developed a PhD students' course within Center for education at BAS under the topic Technological foundations of the immobilization of microbial cells and applications to increase the efficacy of anabolic and catabolic processes. It should be noted the training of 3 PhD students as well.

Compliance of the candidate with the requirements of the Act for the Development of the Academic Staff (ADAS) in the Republic of Bulgaria

As self-stated, in the reference sheet for the compliance of the ADAS requirements along with these of the IMicB-BAS, assoc. prof. Kabaivanova's, PhD record exceeds both national as well as specific requirements for promotion of the academic position "professor" as follows: while the required points by group of indicators A is 50 p., B is 100 p., G is 220 p., D is 120 p. and E is 150 p., assoc. prof. Kabaivanova has submitted, 50 p., 102 p., 226 p., 200 p., and 236.6 p., respectively, which in total account to 814.6 p., while 640 p. are required.

According to the self-stated reference sheet for the specific requirements the Stephan Angeloff Institute of Microbiology – BAS's Rules, assoc. prof. L. Kabaivanova's record again exceeds the requirements set – 450 citations (while 400 are required for professor position), publications cumulative impact factor (IF) of 55.55 (while the required cumulative IF is 40) and H index of 12 (while 10 is required). Assoc. prof. Kabaivanova, PhD coordinated 3 scientific projects and supervised 3 PhD students (one successfully defended her thesis, one ready for final defense and one ongoing).

Critical comments – I have no significant critical remarks or comments.

Personal opinion of the reviewer about the candidate

I know assoc. prof. Kabaivanova since many years (at least 10). In my opinion, she is well-established competent and authoritative scientist, from whom less experienced scientists have lots to learn.

CONCLUSION

The thorough evaluation of the scientific activity of assoc. prof. Kabaivanova, PhD reveals that is it entirely within the area of the present call, as her achievements are with significant fundamental ground, as well as with a clearly outlined practical application. The scientific work and teaching activities exceed the requirements of the Act for the Development of the Academic Staff in the Republic of Bulgaria (ADAS), the Rules for ADAS application, as well as the specific Rules of BAS and the Stephan Angeloff Institute of Microbiology – BAS. The presented set of documents and reported results are in agreement with the specific requirements the Stephan Angeloff Institute of Microbiology – BAS's Rules. Taking all above into account, along with my personal opinion, I consider that assoc. prof. Kabaivanova, PhD is established scientist with a well-defined scientific profile.

As a member of the scientific jury and taking all above into account, I express **my positive assessment and confidently recommend to the esteemed scientific jury to vote positively on awarding the academic position "professor", in professional area 4.3. Biological science (Microbiology), to assoc. prof. Lyudmila V. Kabaivanova, PhD for the needs of Department Biotechnology, Laboratory Bioremediation and biofuels.**

October 18, 2022
Plovdiv, Bulgaria

Prepared by:
/Prof. Milen I. Georgiev, PhD/