

OPINION

By Prof. Tzveta Georgieva, PhD

National Center for Public Health and Analysis, Sofia

Member of a scientific jury, determined by Order No. I-57/23.04.2024. of the Director of "Stefan Angelov" Institute of Microbiology - BAS

About: Competition for the academic position of "Associate Professor" in the field of higher education 7. Health care and sports, professional direction 7.1 Medicine, announced in SG no. 28 of 04/02/2024 for the needs of the Biotechnology Department, Metabolomics Laboratory IMikB - BAS

The only candidate in the competition is Assistant Professor Lilia Vladimirova Mihailova (Vasileva), PhD

This review was prepared on the basis of the submitted documents, in accordance with the required Regulations for the conditions and procedure for acquiring scientific degrees and holding academic positions in the Institute of Microbiology "STEFAN ANGELOV" at the BAS, Regulations for the conditions and procedure for acquiring scientific degrees and for occupying academic positions in the Bulgarian Academy of Sciences, the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Regulations to it. The documentation fully complies with the requirements.

Brief biographical data

From 2018 M.Sc. Pharm. Lilia Mihailova, PhD holds the position of a postdoctoral researcher at the Center for Plant System Biology and Biotechnology (CSRBS), Plovdiv, and from 2021, she was appointed after a competition as head. assistant at the Biotechnology Department, Metabolomics Laboratory, Bulgarian Academy of Sciences, Stefan Angelov Institute of Microbiology, Plovdiv.

Her scientific and professional career began at the Faculty of Pharmacy of the Medical University of Plovdiv. In 2017, she acquired the PHD program "Doctor" in the field of higher education 7. "Health and Sports" in the professional field 7.1. "Medicine", PhD program

"Pharmacology (incl. Pharmacokinetics and Chemotherapy)" after successful defence of a thesis on "Study the effects of *Rhodiola rosea* L. and *Curcuma Longa* L. extracts and their active components salidroside and curcumin on a model of chronic stress".

Assistant Professor Lilia Mihailova has been part of the research team of the Metabolomics Laboratory at the Stefan Angelov Institute of Microbiology (IMikB) since 2021. Her scientific developments are in the field of molecular pharmacology, pharmaceutical biotechnology and biological activity of natural products. Her interests are focused on socially significant diseases and modern approaches to their prevention and pharmacotherapy. Dr. Mihailova and her team are the only ones working in our country with preclinical models of obesity in vitro in human adipocytes and in vivo in nematodes of the species *Caenorhabditis elegans*. Actively participates in the preparation of project proposals, planning and conducting experiments on the various scientific topics developed in the Metabolomics laboratory. For the last more than 5 years, the work of Dr. Lilia Mihailova has been related to the project "Creation of a Center for Plant System Biology and Biotechnology for the Conversion of Basic Scientific Research into Sustainable Bio-Based Technologies in Bulgaria (PlantaSYST)", which is being implemented with considerable European funding under the Horizon 2020 program. During the period from 2018 to 2023, she is a postdoctoral researcher at the Center for Plant System Biology and Biotechnology (CBSBB) in the city of Plovdiv.

Assessment of submitted materials

Quantitative indicators

Assistant Professor Mihailova participated in the current competition with a total number of publications 44, of which 7 are included in the dissertation work for the acquisition of the ONS "doctor". The list of publications included in the competition for associate professor contains 37 publications with a total impact factor of 130.96, of which 19 were published in journals from Q1 for the relevant scientific field. Dr. Mihailova is the lead or corresponding author in 13 of them.

There is participation in 8 participations in research projects, of which 4 international projects and 4 national ones, of which he leads one national project and is the coordinator of a Bulgarian team in one international one.

The scientific - research and scientific - applied activity of the candidate is directed in a particularly significant field of public health care, namely the study of biologically active substances from natural sources and their application for the prevention and therapy of socially

significant diseases such as migraine, stress, obesity, neuropathic pain, toxic effects from various sources on the sensory nervous system. Her research pursuits are multidisciplinary, which

The total number of points according to indicators from A to E are 7130.43 (Table No. 1) based on the Report on the fulfilment of the requirements according to Law on the development of the academic staff in the Republic of Bulgaria, of assistant professor Dr. Lilia Vladimirova Mihailova (Vasileva) for participation in a competition for a Associate Professor in direction 7.1. Medicine, with a minimum required number of 400.

Table No. 1 - Reference for the fulfillment of the requirements according to Law of assistant professor Dr. Lilia Vladimirova Mihailova (Vasileva) for participation in a competition for a docent in direction 7.1. Medicine

Group	Indicator	Requirements of the Regulations for the implementation of the RSARB and the Regulations of the BAS	Achieved by the candidate
Group A	Doctoral Dissertation	50	50
Group B	Doctor of Science	-	-
Group C	Habilitation work, in the form of scientific publications (not less than 10) in publications that are referenced and indexed in world-famous databases with scientific information;	100	134.17
Group D	Publications and reports published in non-refereed peer-reviewed journals or published in edited collective volumes	200	264.36
Group D	Citations or reviews in scientific publications referenced and indexed in world-renowned databases of scientific information or monographs and collective volumes. Citations in monographs and collective peer-reviewed volumes Citations and/or reviews in non-refereed peer-reviewed journals	50	6525
Group E	Participation in a national scientific or educational project Participation in an international scientific or educational project	-	156.90
	Total points	400	7130.43

The scientific indicators of the candidate for the competition repeatedly exceed the required number of points. The candidate also fulfils and exceeds the additional criteria for the growth of the academic staff at the Institute of Medical Sciences, having 435 citations, IF – 130.96 and H-index = 12

The contributions of assistant prof Lilia Mihailova Vasileva can be summarized in several areas:

1. Adaptation of preclinical obesity models *in vitro* in human adipocytes and *in vivo* in *C. elegans*
2. Anti-obesogenic potential and mechanism of action of plant extracts and pure substances
3. Enriching basic knowledge of the role of phosphoinositide-3-kinase (PI3K) / protein kinase B (AKT) inhibition as central to the complex molecular signaling pathways involved in obesity
4. Evaluation of extracts and pure substances to influence the molecular mechanisms of longevity in *C. Elegans*
5. Adaptation of preclinical models of psoriasis and UV-induced skin aging *in vitro* in human keratinocytes
6. Evaluation of immunoregulatory activity and potential for application in chronic stress of extracts and pure substances of adaptogenic plants

The candidate's main interests and scientific research are multidisciplinary to solve important areas for public health, such as obesity, aging, chronic stress, etc. and include: pharmacology, biochemometrics, metabolomics and metabolic profiling combined with scientific and applied research in the field of pharmaceutical biotechnology.

Based on the documents presented to me in connection with this competition, I believe that Assistant Professor Lilia Vladimirova Mihailova (Vasileva) is an established scientist, which is proven by the scientific publications, the developed new methods and procedures and the participation in a number of scientific projects and programs.

In conclusion I can say that Ch. Lilia Vladimirova Mihailova (Vasileva), assistant professor, has made a significant scientific and professional contribution in the field of pharmaceutical biotechnology and, in particular, in the study of the mechanisms of action of natural substances of plant origin. The scientific indicators of the candidate fully meet and repeatedly exceed the requirements of PRAS of IMikB, BAS, ZRASRB and its Regulations.

Based on the above, I am convinced to vote positively and recommend to the respected scientific jury to award the scientific title "Associate Professor" to assistant professor Lilia Vladimirova Mihailova (Vasileva), in the field of higher education 7. "Health and sport", professional direction 7.1. "Medicine" for the needs of the Metabolomics laboratory, Department of Biotechnology, Stefan Angelov Institute of Microbiology - BAS.

Prepared by:


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