

OPINION

on the competition for the academic position of Associate Professor at the Pathology Department of the Institute of Experimental Morphology, Pathology and Anthropology with Museum (IEMPAM) at the Bulgarian Academy of Sciences (BAS)

Applicant: Dr. Rositsa Svetolik Milcheva

Opinion by: Prof. Roumyana Silvieva Mironova, PhD, IMB-BAS

By Order № RD-15-62/26.05.2032 of the Director of IEMPAM at BAS I was appointed as a member of the scientific jury in the competition for the academic position of Associate Professor in the specialty "Immunology" at the Department of Pathology at IEMPAM. For participation in the announced competition has submitted documents a single candidate – Assist. Prof. Rositsa Svetolik Milcheva, PhD. The candidate has submitted all the documents required by the Academic Staff Development Act in the Republic of Bulgaria (ASDARB), the Regulations for its implementation and the relevant regulations of IEMPAM, including a certificate of work experience in the specialty of the announced competition lasting 20 years, which makes her legitimate to participate in the competition. **The enclosed documentation is complete, detailed and extremely well presented.**

Dr. Rositsa Milcheva completed her higher education in 2002 at the Faculty of Biology at Sofia University "St. Kliment Ohridski" as a Master in Molecular Biology with specialization in Clinical Chemistry. In the period after her graduation she held successively the following positions at IEMPAM-BAS - specialist, research assistant, assistant and principal assistant from 2014 until now. He obtained her PhD in 2011 at the Comenius University in Bratislava with a specialty in Pathology and Forensic Medicine. In the period from 2005 to 2008, she spent a total of 15 months of specialization at the Department of Pathology of the same university, where she worked as a postdoctoral fellow after defending her PhD. She has also carried out short-term postdoctoral fellowships at the Centre for Glycobiology at London Imperial College, at the Institute of Biological, Environmental and Rural Sciences of Aberystwyth University, and at the Institute for Molecular Biosciences at the Karl-Franzens University of Graz, (Austria). She has received a number of awards and certificates for her presentations at scientific events, the Academician Ivan Vassilev Award for the best publication by a young scientist in the field of parasitology and a certificate for PI of a project with significant funding at IEMPAM. **These brief CV data testify to a dynamic, focused and successful career development of Dr. Milcheva within the field of pathology, parasitology and immunology, which is in full accordance with the specialty of the announced competition.**

Dr. Milcheva participates in this competition with a total of 19 publications in international scientific journals with a total JCR-IF of **25.442**, calculated by me based on the year of publication. It is noteworthy that the articles with the highest IF are from recent years. The paper with the highest IF (**8.457**) was published in the prestigious journal *Materials Science and Engineering: C* in 2021. The publications are divided by quartiles as follows: Q1- 4 pcs; Q2- 3 pcs; Q3- 10 pcs and Q4- 2 pcs. Fifteen of the publications are refereed in Web of Science and Scopus, and 4 - in Scopus only. In more than half of the articles (10/19) Dr. Milcheva is the first author, which testifies to her active participation in the ongoing research. Her scientific papers have been cited 32 times in publications referenced and indexed in world-renowned databases of scientific information (Web of Science and Scopus). She has participated in a total of 10 international scientific forums and has been a speaker at one of them, co-author of 2 oral presentations and 10 posters (in 6 of which she was first author). She has also participated in 13 national (including foreign) scientific meetings, mostly with oral presentations. **All this testifies to the active research of Dr. Milcheva, which has found an adequate response among the international scientific community.**

The main contributions of Dr. Milcheva of fundamental and applied nature refer to the immunological, morphological, genetic, biochemical and functional changes that occur in the supporting cell (nurse cell), which is formed during invasion of the parasitic nematode *Trichinella*

spiralis in muscle fibers of the striated musculature. In summary, these contributions can be summarized as follows: (a) characterized are the changes in *Trichinella* genus glycosylation that occur during different stages of nematode development; (b) elucidated are the mechanisms of apoptosis as a means of *Trichinella* adaptation in "host" striated muscle tissue during the intestinal phase of *Trichinella* infection; (c) it was established that serum sialic acid levels can be used as a marker of *T. spiralis* infection and in this regard it was also found that the biosynthesis of α -2,3- and α -2,6-sialylated glycoproteins and the expression of dystrophin were increased in the affected muscle cell section; d) it was also found that the levels of two nuclear proteins (PARP-1 and PCNA) were increased in the process of conversion of the infected striated muscle cell into a *T. spiralis* supporting cell. The publication of all these results in peer-reviewed journals, refereed in world-renowned databases, is evidence of their international recognition.

The following table shows the compliance of Dr Milcheva's indicators A to D with the minimum national requirements according to Annex 1 of the Regulations for the implementation of the ASDARB (adjusted for BAS for indicators G and D):

Indicator group	Minimum points	Candidate's points
A	50	50
B	100	100
G	200 (220 for BAS)	220*
D	50 (60 for BAS)	64
Total	430	434

*For indicator G, my data differs from the applicant's documentation, as she did not note that SJR-only publications (without JCR-IF) are credited with 10 points regardless of quartiles. After my correction, it can be seen that Dr Milcheva fully meets the minimum national requirements, including the increased BAS criteria, for the academic position of Associate Professor. Although the assets under indicator E of the above table are not required for "Associate Professor", I will only note that Dr. Milcheva has significant project activity. Thus, she has been a leader/participant in seven research projects - leader of 2 projects and participant in 1 funded by the National Research Foundation; participant in 3 projects funded by other sources; and is currently the leader of an EBR project with the Slovak Academy of Sciences. The accumulated extensive experience in the implementation of research projects is a good prerequisite for the successful implementation of the candidate in the new academic position.

CONCLUSION

From the analysis of the documents submitted by Dr. Milcheva, it is evident that she possesses the required competences in the field of pathology and immunology for holding the academic position of Associate Professor under the present competition. Her scientific metrics fully meet the requirements of the ASDARB, the Regulations for its implementation and the Regulations of BAS and IEMPAM-BAS for holding this position. The candidate's scientific works contain original contributions of significant scientific and applied character. These studies have been published in reputable international journals and have been cited many times. Dr. Milcheva also has good skills to manage her research and has been awarded many times for her scientific and project activities. All this gives me a reason to give a positive assessment of the application of Dr. Rositsa Svetolik Milcheva and to recommend to the SC of IEMPAM-BAS her election to the academic position of Associate Professor.

August 28, 2023

Prof. R. Mironova