

R E V I E W
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Subject: Evaluation of the candidate Milka Milcheva Mileva, a participant in the competition for the academic position of "Professor" in the field of higher education 7. Health care and sports, professional direction 7.3. Pharmacy, announced by the Stefan Angelov Institute of Microbiology - BAS

1. Information about the contest

The competition for the academic position "Professor" has been announced by the Institute of Microbiology for the needs of the Department of "Virusology", Laboratory "Modifiers of the Biological Response and Pathogenesis of Viral Infections". It was published in the "State Gazette" (SG, issue 21 of 07.03.2023), and my participation in the Scientific Jury is in accordance with the decision of the National Assembly (Protocol No. 45/27.04.2023) and Order No. I-52/28.04.2023.

2. Information about the candidate

The only candidate in the competition for the academic position "Professor" is associate professor Dr. Milka Milcheva Mileva, head of the Laboratory "Modifiers of the Biological Response and Pathogenesis of Viral Infections" in the Department of Virology of the same Institute.

Prof. Mileva graduated from the Faculty of Chemistry of Plovdiv University "St. Paisii Hilendarski" as a Master in Chemistry, and she obtained the degree of "Doctor" at the Department of Medical Physics and Biophysics, Medical Faculty of the Sofia University in 2002 with a dissertation on the topic "Influence of rimantadine, vitamin E and cold-immobilization stress on oxidative impairments in an experimental model of influenza virus infection". She successively worked at the Department of Physics and Biophysics of the Sofia University, at the Institute of Physiology - BAS, "Pharmaceutical Toxicology" section. Since 2009, he has been working in the Department of Virology, Institute of Microbiology, and since 2011, he is an associate professor.

3. Teaching activity

Prof. Mileva has an active teaching activity at SU "St. Kl. Ohridski", MU - Sofia and Southwest University "Neofit Rilski", and in the period 2019-2023 she conducted 800 hours of lectures and 240 hours of exercises in master's and bachelor's programs. She participated in the creation of the new specialty Optometry in 2009 at the Faculty of Physics of the Sofia University "St. Kl. Ohridski", where he leads an author's course "Ocular Pharmacology". In the period 2005 - 2009, she was a teacher at

the "Yordanka Filaretova" Medical College (lecture course in analytical chemistry and practicum with exercises).

There are two Ph.D. students who have obtained their degrees under her mentoring and one who is in the procedure. One doctoral student is currently being trained under her supervision.

4. Fulfillment of the requirements for occupying the academic position

Associate Professor Milka Mileva participated in the competition with 41 scientific works, of which: 20 publications in refereed journals with an impact factor and SJR, 19 articles in non-refereed but peer-reviewed journals, and two book chapters. In 30 of the scientific works, Prof. Mileva is the lead (first or corresponding) author. Seven of the scientific articles are in Bulgarian.

According to the requirements of Law for area 7. Health care and sports, to cover indicator B, 100 points are needed, formed by a minimum of 10 publications. Candidate M. Mileva presents 13 publications, forming 111.78 points. In this metric, the referenced articles are distributed by quartiles as follows: 4 articles with Q1, 5 – Q2, 3 – Q3, and 1 – Q4.

In indicator group "Г", with the necessary 200 points, Assoc. Professor Mileva presents publications forming 262.86 points, respectively, according to indicators 7, 8, and 9. Two articles from the presented fall into the first quartile, and four - into the second.

Particularly impressive are the points the candidate scores in group "D" indicators. With the required 100 points, Associate Professor Mileva presented 1273 points, a huge part of which were formed thanks to the citations in refereed journals (750 items). In addition, she was the supervisor or participant in numerous scientific projects (forming 165 points), and the supervision of doctoral students brought her 40 points.

The applicant's Hirsch index is 15 and the overall impact factor is IF 80.851, which fully satisfies the additional criteria.

According to the reference, the candidate significantly exceeds the minimum requirements of the Law for the academic growth and the Regulations for its application for the position of "Professor", as well as the additional requirements of the BAS and the Institute of Microbiology for the position.

4. Scientific topics

The scientific directions in which Prof. Mileva works are mainly two: (1) oxidative damage and the role of antioxidants in the prevention and therapy of diseases and (2) pharmacological potential of plant extracts and (essential oils from Bulgarian oil-bearing roses).

A serious contribution is the development of in vitro and in vivo models to study the biological activity of extracts and purified compounds. A serious contribution was the clarification of the pathogenetic picture in the case of infection caused by the H3N2 influenza virus, by investigating the

markers of oxidative stress and the activity of antioxidant enzymes. An approach has been adopted to control the symptoms and physiological damage from influenza infection, including the administration of a specific antiviral agent oseltamivir in combination with SAM as an adjuvant and precursor of endogenous antioxidant glutathione. A platform was created for the study of the phytochemical profile and biological potential of Bulgarian oil-bearing roses and the wastewater from their production and for the first time a complex comparative analysis of anti-herpesvirus, antibacterial and antitumor activity of products from the Bulgarian *R. alba* L. and *R. damascena* was carried out. For the first time, oils, hydrosols, and wastewaters from rose distillation have been investigated by classical cytogenetic methods in plant, mouse, and human *in vivo* and *in vitro* models. The pharmacological potential of rose oils in combination with acyclovir for the control of herpesvirus infection is reviewed.

5. Specializations, participation in scientific forums, membership in scientific organizations

In 2016, Prof. Mileva was on a two-month specialization at the National Institute of Radiological Research (Chiba, Japan). She has participated in dozens of congresses and conferences with 15 reports at international events in Serbia, Azerbaijan, and the USA), 14 reports at Bulgarian specialized congresses, and nearly 50 poster presentations.

Prof. Mileva is a member of two editorial boards of scientific journals, editor of a special edition in the journal *Life* (MDPI), reviewer of doctoral theses, and member of the Scientific Jury in procedures under the law for academic growth and examination committees. She is a member of SUB, Section "Microbiology, Virology and Immunology".

6. Conclusion

Prof. Mileva is a scientist with energy and a flair for scientific research that is important for society. Her career so far has been dedicated to new, up-to-date scientific directions, but also to the teaching of younger colleagues. Based on the presented materials and analysis of the achievements, I give a completely POSITIVE assessment to the candidate and strongly recommend the election of Associate Professor Dr. Milka Milcheva Mileva for the academic position "Professor" in the field of higher education. 7. Health care and sports, professional direction 7.3. Pharmacy from ZRASRB.

06/06/2023 Signature:

(Prof. Penka Petrova, Dsc)