

EXPERT OPINION

By: Prof. Stoyan Angelov Shishkov, PhD, Faculty of Biology, Sofia University "St. Kliment Ohridski", member of the scientific jury appointed by order No I-45 / 26.03.2025 of the Director of the Stephan Angeloff Institute of Microbiology – BAS, Prof. Penka Petrova, Dr. Habil.

Re: The materials submitted for participation in a competition for the academic position Associate Professor at the Institute of Microbiology - BAS in Higher Education area 4. Natural sciences, mathematics and informatics; Professional area 4.3. Biological sciences, Virology.

The only one candidate participating in the competition is Chief assistant professor Dr. Lora Simeonova Simeonova, who is on a basic employment contract at the Stefan Angelov Institute of Microbiology, BAS, Department of Virology.

1. General presentation of the procedure and the applicant.

The set of materials provided is in compliance with the requirements of the Act for the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for its implementation, and the Regulations for the conditions and the order for acquiring scientific degrees and holding academic positions in the Stephan Angeloff Institute of Microbiology in Professional field 4.3. Biological Sciences. They also satisfy the additional criteria for holding the position of Institute of Microbiology in Professional field 4.3. Biological Sciences. There are no signals for plagiarism. The documentation makes it possible to evaluate the scientific and scientific-applied activity of the candidate, according to the accepted qualitative and quantitative criteria.

Chief Assistant Professor Dr. Lora Simeonova is a graduate of Sofia University "St. Kliment Ohridski", Faculty of Biology, where she graduated as a Master of Virology in 2005. She defended her doctoral dissertation on the topic "Study of the combined effect of rimantadine and oseltamivir against influenza virus A" in 2011. Her professional career includes successively holding the positions of specialist (2005 - 2007), assistant (2007 - 2015) and chief assistant (2015 - present) in the Department of Virology, Laboratory "Experimental Chemotherapy of Influenza" of the Institute.

For participation in the competition for associate professor, she has submitted 20 scientific articles, which are referenced and indexed in the global scientific databases Scopus and Web of Science, divided into two groups, covering indicators C and D for the position of "associate professor" in Professional field 4.3. Biological Sciences. 27 articles, 189 citations and h-index 8 are noted in WoS, 22 articles with 189 citations and h-index 8 are reflected in Scopus as of 12.06.2025.

The results of the scientific research activity have been reported at 24 international and 4 national scientific forums, all submitted for participation in the competition. They reflect her scientific research activity in the professional field of the competition.

Chief Asst. Dr. Lora Simeonova has participated in 1 international scientific project; 4 national projects, of which she was the head of 1; 3 funded by universities and 1 funded by business.

2. General assessment of the applicant activity.

2.1. Assessment of scientific activities

Scientific papers.

The reference for compliance with the minimal state requirements in accordance with Art. 26 of the Act for the Development of the Academic Staff in the Republic of Bulgaria for a scientific area 4. Natural Sciences, Mathematics and, Informatics, Professional area 4.3. Biological Sciences as follows:

- Indicators of group A: PhD thesis - 50 p.
- Indicators of group B: habilitation work - scientific publications in journals that are referenced and indexed in research database (WoS/Scopus) 2 publications with quartile Q1, 2 publications with Q2 and 1 publication with Q4 are included. Accordingly, by indicator group B, the points are 102 out of 100 required.
- Indicators in group C - scientific articles in international refereed and indexed journals include 13 publications, distributed by quartiles (Q1 - 3 issues, Q2 - 4 issues, Q3 3 issues and Q4 - 3 issues). Therefore, publications in this group of indicators carry 236 points with a required 200 points.
- Indicators in group D present a list of 50 citations of articles in scientific publications, refereed and indexed in Web of Science/Scopus. They carry 100 points with a required 50 points. Therefore, the candidate meets the requirements for this indicator of the minimum national requirements.

The total number of points of Dr. Lora Simeonova on the indicators (438 points) exceeds the required 400 points to satisfy the Minimum National Requirements in this part.

The candidate's indicators also satisfy the Regulations on the conditions and procedure for acquiring scientific degrees and for occupying academic positions at the Institute of Microbiology in Professional Field 4.3. Biological Sciences.

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Scientific and applied research contribution.

The candidate's contributions are in the field of screening extracts and substances of natural origin for antiviral activity in vitro and are aimed at obtaining products for use in pharmaceuticals and food supplements. Their effects on the stages of viral replication were also investigated to elucidate the mechanism of action. The combined use of active extracts and formulas with the drug Acyclovir has also been investigated.

Main scientific and applied scientific contributions:

1. Conducting comparative antiviral studies using a developed effective panel of RNA and DNA viruses.
2. Establishing a synergistic combination of oseltamivir and rimantadine against experimental infection with influenza strain A/H3N2 in mice.

3. Proving a pronounced protective effect with the combined use of an anti-influenza drug with antioxidants and an immunomodulator against experimental infection with influenza strain A/H3N2 in vivo.

4. Determining the sensitivity of circulating influenza strains (H1N1 and H3N2) in the country when using neuraminidase inhibitors and M2 blockers.

5. Proving mutations in the M2 protein leading to the manifestation of drug resistance.

6. The leading chemotherapeutic parameters of silver nanoparticles carrying chlorhexidine when used for respiratory viral infections have been determined.

7. An increase in the anti-coronavirus activity of plant extracts when included in liposomes has been established.

Assessment of the candidate's personal contribution.

The presented scientific works and accompanying documentation by Senior Assistant Professor Dr. Lora Simeonova prove the personal contribution to the experimental development, analysis, interpretation and publication of the scientific results. The author's reference for the research work and scientific contributions presents in detail the professional achievements of the candidate. The achieved successes outline Senior Assistant Professor Dr. L. Simeonova as a fully developed researcher and skilled experimenter with high creative capabilities in the field of experimental virology.

2. Other activities.

Chief Asst. Dr. Lora Simeonova gives lectures and exercises on the mandatory discipline "Microbiology and Virology" for students of the Master's program "Pharmacy" of Sofia University "St. K. Ohridski" in English. In addition, she was the scientific supervisor of two successfully defended diploma theses for the acquisition of the Bachelor's and Master's degrees.

Chief Asst. Dr. Lora Simeonova also has accumulated administrative experience as a long-term head of the Laboratory "Experimental Chemotherapy of Influenza" at the Department of Virology of the Institute.

Critical remarks and recommendations.

The presented evidentiary materials and documentation are correct, reliable and comprehensive, therefore I have no remarks or recommendations.

Conclusion.

The scientific papers and documents submitted by Chief Assistant Professor, Dr. Lora Simeonova for participation in the competition for the academic position of "Associate Professor" meet all the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Act and the Regulations on the Terms and Procedure for Acquiring Scientific Degrees and for Occupying Academic Positions at the Institute of Microbiology in Professional Field 4.3. Biological Sciences.

The candidate has submitted a sufficient number of scientific papers for participation in the competition. They contain original scientific and applied scientific contributions and have

received recognition from the international scientific community. The candidate's research activity is at a very high professional virological level and cannot be questioned.

I give a positive assessment and recommend to the members of the Scientific Council of the Institute of Microbiology "Stefan Angelov", BAS to vote positively for the election of Senior Assistant, Dr. Lora Simeonova Simeonova to the academic position of "Associate Professor" in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.3. Biological Sciences (Virology).

12.06.2022

Expert opinion author:

Prof. Stoyan Shishkov, PhD