

OPINION

From Assoc. prof. Galina Simeonowa Radeva

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Regarding the competition for the academic position of "Associate Professor" in Professional Field 4.3. Biological Sciences, Scientific Specialty "Genetics", for the needs of the "Biomonitoring and Ecological Risk" Section, Department of "Ecosystem Research, Ecological Risk and Conservation Biology", Institute of Biodiversity and Ecosystem Research (IBER), Bulgarian Academy of Sciences (BAS), announced in the State Gazette, Issue No. 25/10.03.2026, with a single candidate, Assistant Professor Dr. Tsvetelina Gerasimova.

The present opinion has been prepared on the basis of Order No. 24/07.05.2026 of the Director of the Institute of Biodiversity and Ecosystem Research at the Bulgarian Academy of Sciences (IBER-BAS) and a decision adopted at the meeting of the Scientific Jury held on 20.05.2026. The documents and supporting materials submitted in electronic format by Assis. Prof. Dr. Tsvetelina Gerasimova have been prepared meticulously and in compliance with the requirements of the Academic Staff Development Act of the Republic of Bulgaria, its Implementing Regulations, and the Regulations for the Development of the Academic Staff of the Bulgarian Academy of Sciences. They meet the criteria established by IBER-BAS for appointment to the academic position of "Associate Professor". The submitted dossier contains all the required documents, which provide a detailed account of her academic activities and allow for their objective evaluation.

1. Biographical Information about the Candidate

Assis. Prof. Dr. Tsvetelina Gerasimova completed her higher education at the Faculty of Biology of Sofia University "St. Kliment Ohridski", obtaining a Master's degree in Ecology and Environmental Protection in 2002. In 2012, she was awarded the academic degree of PhD by the Institute of Zoology at the BAS. She has worked successively as a biologist at the Institute of Botany and the Institute of Zoology-BAS, and subsequently as an Assistant and currently as an Assis. Prof. at the Institute of Biodiversity and Ecosystem Research (IBER-BAS).

2. Compliance with the Minimum National Requirements under the Academic Staff Development Act and the Additional Requirements of IBER-BAS for the Academic Position of "Associate Professor"

The report on the fulfillment of the minimum national requirements and the additional requirements of IBER-BAS for the academic position of "Associate Professor" demonstrates that Assis. Prof. Dr. Tsvetelina Gerasimova meets and exceeds the criteria under the respective indicators, accumulating a total of **645 points** out of the required 430, in accordance with the Regulations of IBER-BAS. The distribution of points is as follows: **Indicator A:** PhD dissertation – **50 points**; **Indicator B:** Habilitation thesis – scientific publications ranked in quartiles and indexed in *Web of Science* and *Scopus*: a total of 6 publications are presented, including 4 publications in Q1 journals, 1 publication in a Q2 journal, and 1 publication in a Q4 journal, amounting to a total of **130 points**; **Indicator C:** 15 are included: four in Q1 journals, one in a Q2 journal, four in Q3 journals, four in Q4 journals, 1 publication indexed with SJR, and one book chapter, yielding a total of **265 points**; **Indicator D:** Citations of published works – **200 points**.

3. Evaluation of the Candidate's Research Activity

In the present competition, Dr. Gerasimova has submitted 22 scientific publications, of which 21 have been published in journals indexed and abstracted in internationally recognized scientific databases (*Web of Science* and *Scopus*), and one is a book chapter, **IF= 38**.

Dr. Gerasimova's habilitation report encompasses research in the fields of cytogenetics, genotoxicology, and the biological activity of natural and synthetic compounds, including plant extracts, essential oils, and waste products from distillation processes. In her studies, Dr. Gerasimova applies a multisystem approach involving classical cytogenetic methods- analysis of chromosomal aberrations, the micronucleus test, and assessment of mitotic activity in both *in vitro* and *in vivo* test system, which enables the generation of comprehensive results and the formulation of well-founded conclusions.

The research has yielded scientific, scientifically-applied, and methodological results. In general, the contributions can be grouped as follows:

- ✓ It was demonstrated that products derived from the oil-bearing rose (*Rosa* spp.), including hydrosols and essential oils, exhibit low genotoxicity and significant genoprotective potential, supporting their application in medicine, the food and cosmetic industries, and environmental practices (B4_1–6, G8_16).
- ✓ Newly synthesized aminophosphonates and their derivatives were shown to possess low to moderate genotoxicity, moderate antiproliferative activity, and considerable antitumor potential, making them promising candidates for further pharmacological studies (G7_1, 2, 5, 7–11).
- ✓ *In vivo* cytogenetic studies demonstrated that tetrahydrofuran (THF) induces moderate clastogenic effects in small rodents, with marked interspecific differences in sensitivity. *Mus spicilegus* was identified as a suitable model for genetic monitoring in agroecosystems (G7_14).
- ✓ The snow vole (*Chionomys nivalis*) was identified as a sensitive bioindicator species for assessing lead contamination in high-mountain ecosystems, with relevance for evaluating genetic risks associated with long-term heavy metal exposure (G7_12).
- ✓ The first cytogenetic characterization of the autochthonous Karakachan dog breed was performed, and a minimally invasive method for obtaining metaphase chromosomes was developed, providing a basis for future conservation and breeding studies (G7_3, 4).

4. Additional Activities of the Candidate

The documents submitted reveal Dr. Gerasimova's highly active participation in scientific forums. She has provided a list of 21 contributions to national and 46 contributions to international scientific conferences, where she presented either oral presentations or posters. In addition, Dr. Gerasimova has demonstrated substantial project activity, having participated in 10 national and 4 international research projects.

Conclusion: The scientific research conducted by Assis. Prof. Dr. Tsvetelina Gerasimova in the fields of cytogenetics, genotoxicology, and the biological activity of natural and synthetic compounds, presented in 22 scientific publications, clearly defines her research profile and fully corresponds to the thematic scope of the competition. Dr. Gerasimova's scientific achievements establish her as a dedicated researcher and a highly qualified professional. All of the above provides

sufficient grounds for me to highly appreciate her overall scientific activity and to express my positive evaluation.

I strongly recommend that the esteemed Scientific Jury and the Scientific Council of the Institute of Biodiversity and Ecosystem Research at the Bulgarian Academy of Sciences (IBER-BAS) elect Assist.Prof. Dr. Tsvetelina Gerasimova to the academic position of Associate Professor in the scientific specialty "Genetics" within Professional Field 4.3 Biological Sciences, for the needs of the "Biomonitoring and Ecological Risk" Section, Department of "Ecosystem Research, Ecological Risk and Conservation Biology", IBER-BAS.

22.06.2026

Signed by
/Assoc. Prof. Galina Radeva/