

STATEMENT

From: Assoc. Prof. Teodora Ivanova Todorova, PhD - Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences

Subject: Competition for the academic position "Associate Professor" at the Institute of Biodiversity and Ecosystem Research, BAS to Senior Assistant Tsvetelina Zhanova Gerasimova, PhD in the professional field, 4.3. Biological Sciences, scientific specialty "Genetics" for the needs of the section "Biomonitoring and Ecological Risk" at the Department "Ecosystem Research, Ecological Risk and Conservation Biology" of IBER-BAS, announced in the State Gazette No. 25 of 10.03.2026.

1. General presentation of the procedure and the candidate

In the announced competition for "Associate Professor" for the needs of the Department "Ecosystem Research, Ecological Risk and Conservation Biology", Section "Biomonitoring and Ecological Risk", the only candidate participating is Senior Assistant Professor Tsvetelina Gerasimova, PhD from the Section "Biomonitoring and Ecological Risk", Department "Ecosystem Research, Ecological Risk and Conservation Biology", IBER-BAS. The candidate meets the national minimum requirements for holding the respective academic position according to the Law on the Development of the Academic Staff of the Republic of Bulgaria (LDASRB), the Regulations for its implementation, as well as the requirements according to the Regulations on the Conditions and Procedure for Acquiring Scientific Degrees and for Holding Academic Positions (RCPASDHAP) at BAS and the Regulations on the Conditions and Procedure for Acquiring Scientific Degrees and for Holding Academic Positions at IBER-BAS. In the competition, Dr. Gerasimova submitted 22 articles, exceeding the required 20. Of these, 19 are in

journals with an impact factor (IF) and an impact rank (SJR), meeting the required minimum of 10 in journals with an IF.

By indicator B, the candidate has 6 publications, totaling 130 points out of the required 100. Of the publications submitted, 4 are in Q1; 1 is in Q2, and 1 is in a journal with SJR. The total impact factor by this indicator is 20.4. In 3 of the publications (50%), the candidate is the first author, which testifies to the significant contribution to the presented works. By indicator D, 16 publications have been submitted, covering 265 points out of the required 200 (220 according to RCPASDHAP-BAS). Of these, 4 are in Q1, 1 in Q2, 4 in Q3, 5 in Q4, 1 only with SJR, and 1 chapter from a book. The total impact factor is 16.49. By indicator E, 100 citations are submitted, all in journals with IF, out of a required 20 (10 in journals with IF). The presented citations significantly exceed the requirements set out in the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions at IBER-BAS.

2. Assessment of the main scientific contributions

The main contributions of the scientific developments in which Dr. Gerasimova participates are divided into 5 thematic areas:

- **Cytogenetic screening and genoprotective potential of natural products and plant extracts (*Rosa* spp.) (Publications B1; B2; B3; B4; B5; B6; D8)**

The publications in this area cover the candidate's habilitation work. The presented original data from the multisystem approach (plant test system, human lymphocytes *in vitro*, and animal *in vivo* model - laboratory mice line ICR) on the biological activity of essential oils, hydrosols, wastewaters obtained by classical water-steam distillation, and of extracts obtained by subcritical water distillation of representatives of *Rosa* spp. (*Rosa damascena* Mill., *Rosa alba* L., *Rosa centifolia* L., and *Rosa gallica* L.) show the importance of the complex interpretation of the genotoxic risk when using these products.

- **Cytogenetic screening of newly synthesized aminophosphonates and their derivatives (G7: publ. 1, 2, 5, 7-11)**

In this direction, original data with scientific contribution are presented regarding the clastogenic and antiproliferative activity of a wide range of newly synthesized aminophosphonates and their derivatives. In the case of furan-containing derivatives, anthracene-containing compounds, and polyphosphoesters, a correlation between well-expressed antitumor activity in vitro and relatively low genotoxicity in vivo has been established.

• Cytogenetic screening of industrial chemical agents and organic solvents (G7: publ. 14).

As a result of the *in vivo* cytogenetic study, the genotoxic potential of the industrial organic solvent tetrahydrofuran has been assessed, and interspecies variability in sensitivity has been established. Based on the data obtained, *Mus spicilegus* was identified as a suitable model for biomonitoring the chemical genotoxicity in agroecosystems.

• Ecotoxicological studies and assessment of genetic risk in exposure to heavy metals in wild and laboratory small mammals (G7: publ. 12)

The data obtained characterize *Chionomys nivalis* as a sensitive bioindicator species for assessing lead pollution in high-mountain ecosystems and contribute to a more precise assessment of the ecological risk associated with long-term lead exposure in these ecosystems.

• Karyological and comparative cytogenetic studies (G7: publ. 3, 4).

Two contributions stand out in this direction: scientific and methodological.

Based on the obtained data, a primary cytogenetic characteristic of the Bulgarian autochthonous Karakachan dog breed is presented, which serves as the basis for future comparative, selection, and conservation studies.

The methodological contribution concerns optimizing the approach to obtaining metaphase plates from bone marrow cells, applicable to karyological studies of dogs without significantly disrupting the animals' vital state.

3. Conclusion

Based on the documents submitted for the competition by Senior Asst. Tsvetelina Gerasimova, PhD, I firmly believe that she fully meets, and even exceeds, some of the criteria for the conditions and procedure for acquiring scientific degrees and occupying academic positions of the LDASRB, the Regulations of the BAS, and the Regulations of the IBER-BAS. Her research profile fully meets the requirements of the advertised position.

The direction in which she works is important and promising for the development of the IBER-BAS and of great scientific and applied significance. I strongly recommend that the members of the Scientific Jury support the election of Senior Asst. Tsvetelina Gerasimova for the academic position of "Associate Professor" in the scientific direction 4.3 "Biological Sciences", scientific specialty "Genetics", for the needs of IBER-BAS.

Date: 23/06/2026

Prepared the statement:.....

/Assoc. Prof. Teodora Todorova, PhD/