ВХ № 792/ПО-05-06/19.08.24г.

# STATEMENT

From Assoc. Prof. Dr. Lachezar Pehlivanov

Institute of Biodiversity and Ecosystem Research – BAS, Sofia

**Regarding:** Competition for the academic position "Associate Professor (Docent)" for the needs of the research group "Invasive alien species", section "Biodiversity and functioning of freshwater ecosystem" at the department "Aquatic ecosystems" of IBER-BAS, Sofia, announced in the State Gazette no. 36/23.04.2024 by field of higher education 4. Natural sciences, mathematics and informatics; professional direction 4.3. Biological Sciences; scientific specialty Hydrobiology.

In the announced competition, only one candidate submitted documents – Ch. Assist. Prof. Dr. Hristina Vasileva Kalcheva.

## 1. Brief description of the candidate

Ch. Assist. Prof. Dr. Hristina Kalcheva, completed her higher education with a master's degree in biology with a specialization in Hydrobiology and Water Protection in 1990 at the Faculty of Biology of the Sofia University "St. Kliment Ohridski". In 2009, she started working at the former Institute of Zoology – BAS and in 2010 she was re-enploy in the newly established Institute of Biodiversity and Ecosystem Research – BAS where she developed her PhD thesis. In 2011, she defended a PhD thesis on the topic: Trophic importance of the bacterioplankton in standing freshwater ecosystems – interrelations with abiotic and biotic factors in the pelagial. Dr. Teodora Ivanova has participated in 14 scientific and scientific-applied projects, of which 7 are international what earns her 210 points (with a minimum of 150 required).

## 2. General description of the tender documents submitted

The candidate Ch. Ass. Prof. Dr. Hristina Kalcheva, has submitted a complete set of documents for the competition, following the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB) and the Regulations for its application, as well as the Regulations of IBER-BAS.

## 3. Evaluation of scientific works and contributions

### 3.1. General characteristics of scientific production and publication activity

The scientific production of Dr. Hristina Kalcheva covers the necessary minimum provided for in Law on the Development of the Academic Staff in the Republic of Bulgaria 1 (ZRASRB) and the Rules for its application, and in some indicators it exceeds it. According to the individual indicators, she declares the following results: according to indicator **A1**: 50 points of dissertation thesis for the acquisition of the PhD degree; by a group of indicators **B** 102 points, incl. 6

publications with Q3, 1 with Q4 (at the required 100 points); according to the group of indicators **G** – 242 incl. 182 points of 2 publications with Q2, 6 publications with Q3, 1 publications with Q4 and 4 publications with SRJ but without IF and 60 points of chapters of books/monographs (with a required 220 points) and according to indicator D (citations) – 120 points (with a required minimum of 60 points). In general, it can be concluded that Dr. Kalcheva participated in the competition with a scientific production at a high international level, which covers both the requirements for an associate professor position, provided for in the ZRASRB and the additional requirements of IBER-BAS.

### 3.2. Research activity

The scientific works presented by Ch. Ass. Prof. Dr. Hristina Kalcheva correspond to the theme of the competition – professional direction 4.3. "Biological Sciences", scientific specialty "Hydrobiolgy". Dr. Kalcheva's main research and professional interests are in the area of the study on the structure and processes in the aquatic ecosystems. Research activities of Dr. Kalcheva are focused mainly on studies on the dynamics of the quantitative parameters of bacterioplankton in freshwater ecosystems from seasonal and spatial perspectives and tracking the interrelations of bacterioplankton with the environmental factors and with other communities of the microbial and grazing food webs (phytoplankton, zooplankton, macrophytes, fish etc.) under climate changes and spreading of invasive alien aquatic species. Moreover, she carry out researches on other aspects of the ecology of aquatic ecosystems, such as: effect of the organic fertilization on the trophic state of fish ponds, spreading, ways of introduction, prevention and management of the invasive alien species aquatic organisms etc.

The spatial scope of the studies of Dr. Kalcheva includes: river stretches and wetlands along the Middle and Lower Danube sections, model water reservoirs, carp fishponds, middle and upper river currents.

Results of Dr. Kalcheva's researches have been published in 20 scientific papers (7 under indicator B and 13 under indicator G7) and in 4 chapters of books (indicator G8) of which she is the first author/corresponding author of 3 of them.

Dr. H. Kalcheva has presented her scientific contributions on the topic of the habilitation work fully and comprehensively in the presented report. They are in the following areas:

1. Freshwater microbial ecology, taxonomy, complex ecosystem researches and methodical contributions:

1.1. Ecosystem researches in wetlands on the Danube River flooding terrace and on the Danube River;

1.2. Ecosystem researches in water reservoirs with and without presence of the invasive zebra mussel and its effect on the ecosystems.

2. Invasive alien species – contributions to the taxonomic composition, distribution, ways of introduction, prevention and management;

**3.** Effect of the organic fertilization on the primary production and the other environmental factors in carp fishponds – with scientific and applied contribution in the aquaculture.

4. Application of the statistical methods in analysis in other resarches:

4.1. Study of Plecoptera in the benthal – contributions to the faunistics, the ecology and the conservation of biodiversity;

4.2. Forest ecosystems and arboreal characteristics (indices) – wide ranging study of the relation between the radial growth (RWI) of two tree species with two of they features;

4.3. Ecotoxicological studies with pesticides in test plants – *Lepidium sativum* L. and *Raphanus sativus var. radiculata* L.

**3.3. Citation of the publications in the national and foreign literature**

Ch. Ass. Prof. Dr. Hristina Kalcheva has submitted information on 60 citations of publications with her participation in journals with an impact factor and/or impact rank, which is evaluated with 120 points and exceeds the requirements for an associate professor provided for in the relevant normative documents. This shows that her work is known to experts in the scientific field and is valued.

**4. Critical notes and recommendations**

I consider the last two contributions (4.2 и 4.3), irrelevant to the scientific topic Hydrobiology even if they are relevant to the field of higher education 4. Natural sciences, mathematics and informatics of the competition. Regardless, the other submitted contributions of the candidate, Dr. Hristina Kalcheva, are fully sufficient in view of the requirements for occupying the academic position "Associate professor (Docent)" at IBEI-BAS.

**5. General evaluation of the applicant's compliance to the conditions of the competition**

Ch. Ass. Prof. Dr. Hristina Kalcheva meets the mandatory conditions and fully covers the scientific indicators for occupying the academic position "Associate professor" at IBEI-BAS. She is an established expert in the field of hydrobiology, the study of bacterial plankton communities and ecosystem researches in freshwater ecosystems. This is also supported by the significant number of scientific projects in which she participates, and by the high evaluation she receives from her colleagues for her work.

All this gives me a reason to positively evaluate her overall activity and to vote positively for the election of Ch. Ass. Prof. Dr. Hristina Kalcheva as an "Associate professor" in the scientific specialty of Hydrobiology for the needs of the research group “Invasive alien species” of the section "Biodiversity and functioning of freshwater ecosystem" at the department "Aquatic ecosystems" of IBER-BAS.

19.08.2024 г. Signature: .....

Sofia (Assoc. Prof. Dr. Lachezar Pehlivanov, IBER-BAS)