

**STATEMENT**  
**on application for conferral of academic position of Associate Professor**

by Assoc.Prof. Zdravka Yancheva Velkova, PhD, member of the academic jury,  
Department of Chemical Sciences, Faculty of Pharmacy, Medical University – Plovdiv

convened to render a decision on the conferral of the academic position “Associate Professor” in accordance with the Classifier of the areas of higher education 5. Technical sciences, professional field 5.11 Biotechnology (Ecological and Agrobiotechnology)

**1. General presentation of the procedure**

By Order No RD-21-335 of 15/02/2023 of the Rector of the Plovdiv University “Paisii Hilendarski” (PU) I was appointed as a member of the scientific jury of a competition for the appointment to the academic position of "Associate Professor" in higher education area 5. Technical sciences, professional field 5.11 Biotechnology (Ecological and Agrobiotechnology) advertised for the needs of the Department Biochemistry and microbiology at the Biological Faculty.

The only candidate in the competition for the appointment to the academic position of "Associate Professor", announced in the State Gazette No. 92 from 18/11/2022 for the for the needs of Department Biochemistry and microbiology at the Biological Faculty is Chief Assistant Professor Ivan Zlatkov Iliev, PhD

The package of materials presented to me, in electronic form, for acquiring the academic position of "Associate Professor" is in accordance with the Act on Development of the Academic Staff of the Republic of Bulgaria, the Regulations for its implementation and the Regulations for Academic Development of PU and includes all necessary documents.

**2. Biographical data and career profile of the candidate**

Ch. Assist. Prof. Ivan Zlatkov Iliev, PhD, graduated, in 2001, from the Biological Faculty at Plovdiv University “Paisii Hilendarski”, with a Master’s degree in Microbiology and professional qualification and specialization in Plant Biotechnology.

From 2006 to 2009 he held the position of Assistant Professor at the Institute of Fisheries and Aquaculture – Plovdiv. In 2011 he was appointed as an Assistant Professor in the Department of Biochemistry and microbiology, Biological Faculty, Plovdiv University “Paisii Hilendarski”. In 2015, he successfully defended his dissertation and obtained the educational and scientific degree "doctor", professional field 4.3 Biological Sciences. Since 2016 Ivan Iliev has been a Chief Assistant Professor in the Department of Biochemistry and microbiology at the Biological Faculty.

According to the submitted evidence of work experience (as of January 2023), the total teaching experience of Ivan Iliev is over 16 years, of which over 7 years as Ch. Assist. Prof.

The candidate is a member of the editorial board of the Journal of BioScience and Biotechnology (section Biochemistry and Biotechnology), <http://www.jbb.uni-plovdiv.bg>.

**3. General characteristics of the candidate’s activities**

Ch. Assist. Prof. Ivan Iliev, PhD, has presented 1 habilitation thesis - monograph, 32 scientific publications and 2 author's certificates for an established scientific product for implementation in practice.

The candidate stated that the submitted materials were not included in the procedures for acquiring the educational and scientific degree "Doctor" and the academic position "Chief Assistant Professor".

**Group A indicators:** Points required – 50; Points accomplished – 50

**Indicator 1** Dissertation thesis for acquiring educational and scientific degree "Doctor" .

The candidate has defended a dissertation thesis for awarding the educational and scientific degree "Doctor" entitled "Microbiological and hydrobiological status of aquaculture in net cage in the "Kardjali" dam".

**Group B indicators:** Points required – 100; Points accomplished – 100

**Indicator 3** Habilitation thesis-monograph

A habilitation thesis-monograph is presented entitled "Technology for ecological assessment and planning of sustainable aquaculture in complex and significant reservoirs", University Publishing House "Paisii Hilendarski", 2023, ISBN 978-619-202-825-1.

Own research related to determining the capacity of cage aquaculture development in 9 dams in Bulgaria is presented. Their ecological potential (EP) was determined with the use of physicochemical and biological quality elements (BEC). The taxonomic structure of bacterioplankton was analyzed, the reliability of selected microbiological indicators as an alternative to physicochemical and biological quality elements in determining the ecological potential of complex dams was evaluated. A methodology for determining ecological capacity for L11 – Large type reservoirs was proposed and validated.

**Group G indicators:** Points required – 200; Points accomplished – 270.7

**Indicator 7** Scientific articles in journals referenced and indexed in the global databases of Scopus and Web of Science

The candidate has submitted 25 publications.

**Indicator 8** Scientific articles published in edited collective volumes and unreferenced journals with scientific peer-review.

Seven scientific 7 publications are presented.

The scholarly activity of Ch. Assist. Prof. Ivan Iliev falls within the fields of:

- Assessment of the ecological state of surface waters.
- Ecology of microorganisms and assessment of bioremediation potential of soil microbial isolates.
- Development of technologies for growing economically important hydrobionts.

In the first direction, the following more important scientific, original scientific and applied contributions can be noted:

- ✓ The applicability of microbiological indicators as quality elements in ecological assessment of complex and economically important dams, which complement the four physicochemical and biological quality elements intercalibrated in the national classification, has been proven. The developed system of sanitary-indicative factors is a mandatory element for analysis, included in the permits for the use of surface water, for the purposes of aquaculture and related activities, issued by the Ministry of Environment and Water.

- ✓ A complete taxonomic analysis of the bacterioplankton was performed by massively parallel sequencing of the gene encoding 16S rRNA in 11 complex and economically important dams in Bulgaria. A similar dominant complex was found in all dams.
- ✓ The term "carrying capacity" was introduced for complex and economically important dams in Bulgaria.
- ✓ Specific values for ecological capacity for fish production have been proposed, which have been accepted by the Ministry of Environment and Water as borderline for the respective dams when issuing or renewing permits for the use of surface water, for the purposes of aquaculture and related activities.

In the second direction, the following scientific and scientific-applied contributions can be noted:

- ✓ The structure and metabolic profile of the rhizospheric microbiome of lettuce (*Lactuca saliva* L.) was analyzed, and when sequencing the gene encoding 16S rRNA, the direct relationship of fertilization with the bacterial taxonomic composition was established.
- ✓ The microbiome of protected wetlands along the Maritsa River was investigated by 16S rRNA (MiSeq Illumina) sequencing. Wetland type and soil type were found to be the main determinants of the bacterial community. Sediment communities of constructed areas subjected to periodic drainage are characterized by lower values of biodiversity indices.

In the third direction, the following applied contributions can be pointed:

- ✓ A technology for net-cage fish farming of channel catfish (*Ictalurus punctatus* Raf.) was adapted to the conditions in TPP cooling reservoir.
- ✓ Optimized stocking density of carp (*Cyprinus carpio*) and bighead carp (*Arishtichthys nobilis*) in polyculture with herbivorous species in earthen-type ponds was proposed.
- ✓ It has been established that in carp farming, the inclusion of European catfish (*Silurus glanis*) as a biomeliotrator results in additional yield at the expense of peaceful fish species.

**Group D indicators:** Points required – 50; Points accomplished – 1414

An important testimonial of the scientific achievements of Ch. Assist. Prof. Ivan Iliev is the number of positive citations of his publications. A list of 134 positive citations in the Scopus and Web of Science databases and 37 citations in non-refereed peer-reviewed journals is presented.

**Group E indicators:** Points required – “if applicable”; Points accomplished – 313.3

**E.18** Ivan Iliev has been a participant in 22 research projects, 7 of which have externally funded by the scientific research fund of the Ministry of Education and Science. All projects have been successfully completed.

**E.23** The candidate is the co-author of one university textbook - Biotechnological processes and equipment, University Publishing House “Paisii Hilendarski”, 2022, ISBN 978-619-202-815-2.

**E.24** Ch. Assist. Prof. Ivan Iliev is the co-author of a university manual - Guide for laboratory exercises in Microbiology, University Publishing House “Paisii Hilendarski”, 2027, ISBN 978-619-202-240-2

**E.26** Two author's certificates for an established scientific product for implementation in practice are presented.

The total number of points from indicators A, B, G, D and E is 2148, compared to the required 400.

Ch. Assist. Prof. Ivan Iliev has developed and presented 5 curricula in the Bachelor's degree and 2 in Master's degree.

The average study workload (in the last six academic years) is 645 academic hours, compared to the required 360 hours.

Ch. Assistant Prof. Ivan Iliev is the scientific supervisor of eight successfully defended diploma theses of master students from the Faculty of Biology.

Ivan Iliev meets all the additional requirements of the Faculty of Biology.

#### **4. Critical notes and recommendations**

I have no significant critical remarks about the content of the materials presented in the competition and the way they are designed. The contributions presented by Ch. Assist. Prof. Ivan Iliev are presented on 6 pages. I believe that some of them should be summarized.

#### **5. Conclusion**

The documents and materials presented by Ch. Assist. Prof. Ivan Iliev meet all requirements of the Act on Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Regulations for its implementation and the Regulations for the development of the academic staff of PU "Paisiy Hilendarski".

The candidate has submitted a sufficient number of scientific works published after receiving the educational and scientific degree "Doctor" and the academic position "Chief Assistant Professor". The candidate's scientific work contains original scientific and applied contributions in the field of environmental biotechnology and agrobiotechnology, which have received international recognition.

The presented scientific and educational activities meet and exceed the mandatory and specific criteria for the academic position "Associate Professor" pursuant to the Act on the Development of the Academic Staff of the Republic of Bulgaria, the Regulations for its implementation and the Regulations for Academic Development of Plovdiv University "Paisii Hilendarski".

I find it justifiable to give my positive assessment and to recommend to the Scientific Jury to prepare a report with a proposal to the Faculty Council of the Biological Faculty for the appointment of Chief Assistant Professor Ivan Zlatkov Iliev, to the academic position of "Associate Professor" at the Plovdiv University "Paisii Hilendarski" in higher education area 5. Technical sciences, professional field 5.11 Biotechnology (Ecological and Agrobiotechnology)

Reviewer: .....

/Assoc. Prof. Zdravka Velkova, PhD/

April 6, 2023