

REVIEW

by assoc. prof. Dilyana Petrova Nikolova, PhD

Sofia University "St. Kliment Ohridski", Faculty of Biology

Department of Biotechnology

member of the Scientific Jury by order № RD-21-335 from 15.02.2023 of the Rector of the University of Plovdiv "Paisii Hilendarski"

regarding the materials submitted for participation in a competition for the academic position of Associate Professor of the University of Plovdiv "Paisii Hilendarski",

in the field of higher education 5. Technical sciences, professional field: 5.11 Biotechnology (Ecological and agro-biotechnology)

In the competition for the academic position Associate Professor, announced in the State Gazette, no. 92 of 18.11.2022 and on the website of the University of Plovdiv "Paisii Hilendarski" for the needs of the Department of Biochemistry and Microbiology at the Faculty of Biology (BF), the only candidate participating is Dr. Ivan Zlatkov Iliev, who holds an academic position Chief Assistant Professor in the Department of Biochemistry and Microbiology.

1. General presentation of the procedure.

The set of materials presented by Assist. Prof. Dr. Ivan Iliev is in accordance with the Law on the Development of the Academic Staff of the Republic of Bulgaria and the Regulations for the Development of the Academic Staff of the University of Plovdiv "Paisii Hilendarski", and includes the following documents:

- Administrative documents (Application to the rector of the University of Plovdiv "Paisii Hilendarski" for admission to participation in the competition; CV in European format; diploma for higher education; diploma for PhD);
- Scientific works for participation in the competition - list and copies of the publications;
- List of citations, incl. citations in refereed and indexed scientific publications and in non-refereed journals;
- Document of compliance with the minimum national and additional requirements of the Faculty of Biology of the University of Plovdiv "Paisii Hilendarski";
- Annotation of the materials and self-evaluation of the contributions;
- Declaration of originality and authenticity;
- Certificate of work experience;
- Documents for educational activity;
- Documents for scientific research activity;

- Documents related to the additional requirements of the Faculty of Biology;
- Other documents – Two certificates for approved scientific product for implementation in practice and Certificate of participation in an editorial board of a scientific journal.

The candidate, Assist. Prof. Dr. Ivan Iliev, has applied a monography, 32 scientific publications, 2 certificates for approved scientific product for implementation in practice, 1 textbook and 1 study guide, which were not used at the acquisition for the PhD and academic position Chief assistant professor. Of the 32 publications presented, 25 are in refereed and indexed scientific journals in the world databases and 7 are in non-refereed journals. 171 citations were submitted for participation in the competition, of which 134 were in refereed and indexed scientific publications. A list of 22 participations in research projects and detailed information about the teaching activity are presented.

2. Brief biographical data of the applicant.

Assist. Prof. Dr. Ivan Iliev was graduated MSc in Biology with specialization in Plant Biotechnologies at the University of Plovdiv "Paisii Hilendarski" in 2001. In 2015, he obtained the PhD in Microbiology. In the period 2006 - 2011 he held the position of Assistant professor at the Institute of Fisheries and Aquaculture. Since 2011 to 2015 he was an assistant professor at the Department of "Biochemistry and Microbiology" at the University of Plovdiv "Paisii Hilendarski", and in 2015 he held the position of Chief assistant professor in the same department.

3. General characteristics of the activity of the candidate.

Teaching activities:

Assist. Prof. Dr. Iliev leads lectures on the following disciplines:

- Biotechnology of renewable energy sources for BSc program Pharmaceutical biotechnologies;
- Microbial energy sources for MSc program Biotechnological microbiology / Industrial microbiology.

In the period 2017 - 2023, he leads practical classes in 13 disciplines in various BSc and MSc programs at the Faculty of Biology in the University of Plovdiv "Paisii Hilendarski". The total number of classroom hours for the period is 95 hours of lectures (equated to 190 hours of practice classes) and 3532 hours of practice classes, which corresponds to over 620 hours annually.

The candidate has participated in the development of the curricula for 5 disciplines in the Bachelor degree programs and two disciplines in the Master degree programs.

Assist. Prof. Dr. Iliev is the co-author of one textbook and one study guide, which are intended for students. He was the scientific supervisor of the diploma theses of eight graduates.

Scientific activities:

The main scientific works and contributions of the candidate are structured in four areas:

1. Assessment of the ecological status of surface waters (monography work and publications III.1, III.2, III.3., III.6, III.7, III.14, IV.1, IV.2), with 11 contributions, related to: the quality and ecological potential of dams; the applicability of microbiological indicators in research and ecological assessment of dams; taxonomic analysis of bacterioplankton and its gradient distribution in dam bodies; the influence of indicator invasive species in the assessment of dam conditions; testing, validation and application of Ecological Capacity assessment, which is adopted in regulations.
2. Molecular biological and physiological analyzes of microbiomes in soils and sediments and evaluation of the bioremediation potential of soil isolates (publications III.5, III.8, III.9, III.10, III.12, III.25, IV. 3), with a total of 6 contributions determined regarding: structure and metabolic profile of soil microbiome of lettuce (*Lactuca sativa*) grown; study of the microbiome of wetlands along the Maritsa river; analyzing urban soils for heavy metal content and bioremediation potential of grasses species at such contaminants; study of the biosynthetic potential for hydrolase enzymes (proteases and lipases) of strains *Bacillus thuringiensis* and *Pseudomonas fluorescens* as the species from the soil microbiome.
3. Development of technologies in the fisheries sector - fish farming and research of freshwater crab populations and assessment of their economic potential (publications III.17, III.18, III.20, III.21, III.24), with 6 defined contributions with highlighted applicability: technologies for breeding of channel catfish, stocking material from carp and from bighead carp were adapted and optimized; the importance of European catfish as a bioremediator has been established; primary data on anesthetic effect of clove oil in predatory fish species were obtained; a habitat of narrow-clawed crayfish was confirmed and new ones of stone crayfish and river crayfish were established and the structure and stability of the populations was evaluated.
4. Microbial pathogenesis (publications III.11, IV.4, IV.5, IV.6), and the contributions in this area are related to: chemical composition of extraction products from different varieties of tobacco and evaluation of antimicrobial activity; etiologic structure of urogenital infections and the need to update data for antibiotic resistance and virulence patterns.

The presented documents for scientific activity of Assist. Prof. Dr. Iliev fully cover all minimal national requirements for the academic position of Associate Professor in Biotechnology in accordance with the Law on the Development of the Academic Staff of

the Republic of Bulgaria and the Regulations for the Development of the Academic Staff of the Faculty of Biology of the University of Plovdiv "Paisii Hilendarski":

Group A indicators (minimum required points 50) - Indicator 1

The candidate has obtained the PhD in Biological Sciences in 2015 - 50 points.

Group C indicators (minimum required points 100) - Indicators 3 and 4

The candidate submits a habilitation thesis - a monography, that complies with the law requirements in terms of volume, format and scientific reviews - 100 points.

Group D indicators (minimum required points 200) - Indicators 7 and 8

The candidate presents a total of 32 publications, of which 25 is publications, that are referenced and indexed in world scientific databases and 7 in non-refereed peer-reviewed journals or in edited collective volumes - 270.7 points

Group E indicators (minimum required points 50) - Indicators 13 and 14

The 134 citations in scientific publications, in referenced and indexed scientific journals and 37 citations in non-refereed journals with scientific review - 1414 points.

Group F indicators (minimum required points - not required for academic position Assoc. professor, but included in additional Regulations of the University of Plovdiv) - Indicators 18, 23, 24 and 26

The candidate has participated in 22 research projects, he is a co-author of one university textbook and one university study guide and presented 2 author's certificates for an approved scientific product for implementation in practice - 313.3 points.

The total number of points according to the indicators is 2148, as the required minimum for the academic position Associate Professor in Biotechnology is 400 points.

4. Critical remarks and recommendations

I have no critical remarks about the materials presented by the applicant.

CONCLUSION

The presented documents and supported materials by Assist. Prof. Dr. Ivan Zlatkov Iliev are fully correspond to the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Law and the Regulations for the Development of the Academic Staff of the University of Plovdiv "Paisii Hilendarski".

The candidate in the competition has submitted a significant number of scientific works published after the materials used for the PhD and academic position Chief Assistant Professor. The candidate's work has original scientific and applied contributions that have

received international recognition through their publication in scientific journals, referenced and indexed in world databases of scientific information.

The achievements of Assist. Prof. Dr. Ivan Iliev and the results of the teaching and research activities fully meet and significantly exceed the minimum national and additional requirements of the Faculty of Biology, adopted in conjunction with the Regulations of the University of Plovdiv for the application of the Law on the Development of the Academic Staff in the Republic of Bulgaria.

The review and evaluation of the materials and scientific works presented in the competition, the analysis of their significance and of the scientific and the applied contributions allow me to confirm my positive assessment, presented above and recommend to the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Biology for the election of Assist. Prof. Dr. Ivan Zlatkov Iliev, PhD to the academic position of Associate Professor of the University of Plovdiv "Paisii Hilendarski", in the field of higher education 5. Technical sciences, professional field 5.11 Biotechnology (Ecological and agro-biotechnology).

05.04.2023

Reviewer:

Assoc. Prof. Dilyana Nikolova, PhD