

REVIEW
by Prof. DSc Mima Ivanova Nikolova

**on the materials submitted for participation in the competition
for the academic position of "Associate Professor"
at Plovdiv University "Paisii Hilendarski"
in: Field of Higher Education 4. Natural Sciences, Mathematics, and
Informatics, Professional Direction 4.3. Biological Sciences (Morphology)**

In the competition for "Associate Professor," announced in the State Gazette, issue 98 of 19.11.2024, and on the website of Plovdiv University "Paisii Hilendarski" for the needs of the Department of "Developmental Biology" at the Faculty of Biology, the candidate participating is Chief Assistant Prof. Dr. Stela Georgieva Stoyanova from the Department of "Developmental Biology" at the Faculty of Biology.

1. General presentation of the submitted materials

I have been appointed as a member of the scientific jury for the competition for the academic position of 'Associate Professor' at Plovdiv University in the field of Higher Education 4. Natural Sciences, Mathematics, and Informatics, professional direction 4.3. Biological Sciences (Morphology), announced for the needs of the Department of "Developmental Biology" at the Faculty of Biology by order No. RD-22-441/18.02.2025 of the Rector of Plovdiv University "Paisii Hilendarski". The sets of materials submitted by the candidate are in accordance with the Rules for the Development of the Academic Staff of Plovid University.

2. Brief biographical information of the candidate

Chief Assistant Professor Stela Georgieva Stoyanova, PhD was born on 26/02/1986 in the town of Chirpan. She completed her education in 2005 at the Plovdiv Mathematical High School. She completed her Bachelor's degree in "Biology" at the Faculty of Biology, Plovdiv University, and in 2011, she obtained her Master's degree in "Anthropology" from the same institution. She defended her doctoral thesis in the Department of "Ecology and Environmental Protection," Faculty of Biology, Plovdiv University "Paisii Hilendarski,". From 2009 to 2014,

she was a part-time assistant professor at the Department of Developmental Biology, where she currently works as a Chief Assistant Prof.

3. General overview of the activities of the candidate

The candidate has over 10 years of teaching experience in the Department of Developmental Biology of the Faculty of Biology. The candidate teaches courses in Bachelor programs in the following areas: “Histology and embryology”, “Histology and pathology”, “Human Developmental Biology”. The courses in the master's programs „Reproductive biology“ and Biodiagnostics are: “Gametogenesis. Human prenatal development” and “Histological methods in clinical diagnostics”. She has prepared 2 lecture courses for bachelor's programs and 2 for master's programs. Under her guidance, 8 graduates successfully defended their theses. The candidate participated in ten scientific projects.

A total of two textbooks for courses taught at the Faculty of Biology are presented: "Guide on Histology" and “Guide on Histology and pathology” where the candidate is the second author.

Chief Assistant Prof. Stoyanova has extensive administrative experience with her participation in committees - accreditation of the Doctoral Programmes; attestation of the academic staff; the ethical committee for scientific research. She is the secretary of the Department of Developmental Biology and an academic advisor in Academia Iuventutis. The candidate fully meets all additional requirements of the Faculty of Biology.

The presented list of materials of Chief Assistant Prof. Stoyanova includes 33 scientific publications - Q1 - 2 papers, Q2 - 3 papers, Q3 - 8 papers and Q4 - 19 papers. The scientific publications with IF are 26, and from all presented papers 17 are published in national scientific journals and 16 papers are published in international journals. All presented publications are co-authored and they are in English. The candidate participated in 6 international scientific forums and 25 at national forums with international participation.

The candidate's research and applied scientific activities are focused on the following main areas:

- Research of hydrobionts as suitable bioindicator species for monitoring pollution of aquatic ecosystems with organic pollutants and heavy metals.
- Risk assessment of applied organic pollutants and heavy metals through their bioaccumulation in hydrobionts.
- Influence of various toxicants on the organism of freshwater bioindicator species.
- Therapeutic effect of food supplements in male infertility.

Scientific contributions

- Application of multi-biomarker approach, including histopathological, histochemical and biochemical alterations in the organism to study the aquatic pollution. In this regard, it is proven that common carp, silver carp and zebra mussel can be successfully used as indicators of aquatic pollution with priority organic pollutants and heavy metals.
- The health of Caucasian dwarf goby from an anthropogenically influenced site has been assessed for the first time using histopathological biomarkers in target organs, which undoubtedly enriches the complex biomarker approach in the environmental monitoring.
- The scientific work in field of aquatic pollution with pesticides and heavy metals has an undeniable scientific contribution. The application of the multi-biomarker approach contributes a new and systematized information in the research area. Moreover, the degree of expression of the histopathological alterations was studied, as well as, the change in specific enzymatic activity was determined.
- Detailed and comprehensive information was obtained regarding the effect of the dietary supplement “PARA” on conventional and functional sperm parameters in the infertile men. The results confirm the fact that multi-

complex dietary supplements improve conventional sperm parameters in infertile men.

The scientific and applied contributions are primarily in the field of health care and the protection of aquatic ecosystems.

- A complex biomarker approach for the purpose of developing a model for assessing the aquatic pollution with organic pollutants is proposed and has a practical contribution.
- The proposed scales for each assessing the degree of expression of histopathological biomarkers have a methodological contribution. The results from such experiments could be successfully used in the legislation related to the protection of water bodies from contamination.
- It is recommended that the dietary supplement "PARA" be applied as an appropriate therapeutic method in men with fertility problems.

Dr. Stoyanova has reported 272 citations from Scopus/WoS which 266 are in international scientific journals and 6 are in national journals in English, 235 citations from scientific journals with IF are presented.

4. Assessment of the personal contribution of the candidate

I consider that Chief Assistant Prof. Stoyanova has a significant contribution related to the presented materials in the competition. The obtained results have a high biomedical and social significance. As a participant in the MA in Anthropology, she demonstrated deep scientific interests in both water monitoring programs and human risk assessment. I have no critical remarks on the presented materials in the competition.

CONCLUSION

The documents and materials presented by Chief Assistant Professor Stela Georgieva Stoyanova, PhD meet all the requirements set by the LDASRB, the Regulations for its implementation, the Regulations for academic development of

Plovdiv University "Paisii Hilendarski", as well as, the Additional requirements of Faculty of Biology.

The candidate has presented a significant number of scientific papers which are different from the materials used in the defense of PhD thesis and "Chief Assistant Professor" competition. The presented materials contain original scientific and applied contributions that have received international recognition. The candidate's scientific and teaching qualifications are unquestionable. The obtained results from academic and research activities fully comply with the minimum national and additional requirements of the Faculty of Biology.

After the assessment of the presented materials, scientific works and analysis of their significance along with the achieved scientific and applied contributions, I recommend to the Scientific Jury a preparation of a report-proposal to the to the Faculty Council of Faculty of Biology, University of Plovdiv "Paisii Hilendarski" towards the election of Chief Assistant Professor Stela Georgieva Stoyanova, PhD for the academic position "Associate Professor" in University of Plovdiv "Paisii Hilendarski" in the field of higher education 4. Natural sciences, mathematics and informatics, professional direction 4.3. Biological Sciences (Morphology).

18.03.2025

Reviewer:.....

Prof. Mima Nikolova