

OPINION

by Associate Professor Dr. Penka Yonkova Yonkova,

Department of "Veterinary Anatomy, Histology and Embryology",
Faculty of Veterinary Medicine at Trakia University, Stara Zagora

On the basis of order No. RD-21-331 dated 15. 02. 2023 of the Rector of the Plovdiv University "Paisii Hilendarski" (PU), Plovdiv, I was appointed as an external member of the scientific jury, in connection with a competition for holding the academic position of "professor" in: field of higher education **4. Natural sciences, mathematics and informatics, professional direction 4. 3. Biological sciences (the scientific specialty Morphology).**

The competition, announced in State Gazette No. 92 /18 November 2022 and on the website of the Plovdiv University "Paisii Hilendarski" is for the needs of the Department of Developmental Biology at the Faculty of Biology at the same university.

Documents for participation in the announced competition were submitted by a single candidate: **Associate Professor Dr. Elenka Stoilova Georgieva**, from the Department of Developmental Biology at the Faculty of Biology at the "Paisiy Hilendarski" University of Plovdiv. The set of documents and materials of **Assoc. Prof. Georgieva**, which have been provided to me for review, were prepared on an electronic medium and **were in accordance with all requirements** of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the Regulations for the Implementation of the LDRASRB and the relevant regulations of the Plovdiv University (RDRASPU).

The candidate has grouped the documents into three main file folders: "Scientific papers", "Administrative documents" and "Documents - scanned".

Assoc. Prof. Dr. Elenka Stoilova Georgieva was born on August 17, 1960, in the town of Plovdiv. In 1978, she completed her secondary education, and in 1981, she successfully graduated from the Postgraduate Medical Institute, where she received a qualification as a nurse (general profile). For two years (1984 – 1986) he worked as a medical registrar in the polyclinic, as well as in functional, and gastroenterology office of General hospital for active treatment Saint Mina, Plovdiv. Her ambitions for professional growth and personal improvement found expression in her continuing studies at the PU "Paisii Hilendarski", where in 1991 Associate Professor Georgieva completed her higher education with honors and acquired the qualification "Biologist-Master" with specialization. "Biology Teacher". For two years, he worked as a biology teacher in the 7th and 8th grades at Yane Sandanski Elementary School, Plovdiv (1992) and as a biology and chemistry teacher in the 5th - 7th grades at "Aleko Konstantinov" Elementary School, Plovdiv (1993). **Assoc. Prof. Dr. Elenka Georgieva** began her work at the Faculty of Biology at the PU as a part-time assistant in the Department of General Biology. From 1994 to 1998, he held the position of "assistant professor", and from 1998 to 2001, the position of "senior assistant professor " in the same department. **Assoc. Prof. Georgieva's** career growth continued with her appointment to the position of "chief assistant professor" in the Department of Developmental Biology at the Faculty of Biology, where in 2005 she successfully defended her PhD thesis on the topic "Evolutionary aspects in the appearance and cell-tissue localization of blood group antigens A and B in vertebrates". From 2010 to the present, she holds the academic position of "associate professor" and was elected Head of the Department of Developmental Biology.

Out of a total of 36 years of work experience, **Associate Professor Georgieva** has 29 years of teaching experience and almost 13 years holding the academic position of "associate professor".

From the Auditorium Occupancy Report, the number of disciplines that are presented makes a particular impression - Embryology and Histology, Developmental Biology, Human Developmental Biology, Cell Biology, Embryology and Histology, Histology and Pathology, and Reproductive Biotechnologies. For them, the candidate prepares lecture courses and presentations and conducts the training of the students from the 1st, 2nd, 3rd, and 4th years of the educational and qualification degree "bachelor" in the various specialties. During the last six academic years, the total number of hours of **Associate Professor Georgieva**'s classroom employment was **3042** hours, which exceeded 1.6 times the norm for this period - a total of **1880** hours. The honor of having a teacher like **Associate Professor Georgieva** is also shared by students' specialty in Biology and management of natural resources at the branch of the Polytechnic University in Kardzhali and those majoring in Biology with Ecotourism in Smolyan. The total number of hours of practical trainings and lectures in PU branches from the year 2017 to 2023 is **1080** hours. The over-implementation of the norms of classroom employment speaks eloquently about the great diligence and professional dedication of the candidate.

In the competition for the academic position of "professor", the candidate has submitted his scientific works, in the order indicated in the LDRASRB, the Rules for the LDRASRB, and RDASPU, having organized them in file folders and files entitled respectively "Scientific works", "Annotation of the materials under Art. 76 of RDASPU " List of scientific works", "Table 1" and "Table 2". The sequence and the arrangement of the documents follow the same order, which allows me to quickly and easily follow all the information concerning the procedure. **Assoc. Prof. Elenka Georgieva** attached: Dissertation work for the award of Educational and Scientific Degree (ESD) "Doctor" (Indicator A); Monography (Indicator C3); **35** scientific publications that are referenced and indexed in world-famous databases with scientific information (Indicator G7), of which **24** publications have metrics from Q1 to Q4 and a total impact factor of **34,812**, and **11** publications are without metric Q; **8** numbers of other scientific publications (outside of those specified under Indicator D7); Published book chapter (Indicator D8) **1** issue; Textbooks (Indicator E19) - **2** in numbers and manual (Indicator E 20) - **1** in number, which are used in the training of students in "General Histology", "General Pathology" and "General Embryology".

Assoc. Prof. Georgieva is the independent author of the monography, the textbooks, and the practical guide and lead author in **26** scientific publications. The large number of citations (**407**), of which 352 are reflected in the global databases Web of Science and Scopus, is proof of the importance of the scientific output of **Assoc. Prof. Georgieva** and respectively of the author's collectives with which she has been actively working since 1999.

It is evident from the attached papers that the candidate's research activity is directed in several directions. The first of them is related to a series of studies on the influence of various heavy metals and chemical compounds on the morphology of the gills, liver, kidneys, gonads, etc. organs of Common carp, Crucian carp, Caucasian dwarf goby, etc. The results of these studies are based on multiple tissue analyses in the evaluation of histological changes in fish organs. I also find the Chinese and zebra mussel experiments to be extremely valuable, which prove serious contamination with heavy metals in the reservoirs of some of the large dams in our country. This is extremely important in water monitoring in order to protect the environment and human health. The second scientific direction examines the expression of some markers of metabolic syndrome in humans and the risk of its occurrence, as well as the influence of obesity on male reproductive potential. In Publication No36 and in the monography "Application of PAPA® nutritional supplement in men with sub/infertility and men with varicocele", the candidate examines a very important and very relevant problem of our time. A large number of patients with whom the study was conducted is impressive, as well as the convincing positive effects of the application of

the dietary supplement PARA® in increasing male fertility. The data from the monography can be used with great success by specialists in the field of Reproductive Biology, whose efforts are aimed at helping patients with infertility, in which the chances of conceiving a partner can be increased. Other thematic directions in which **Assoc. Prof. Georgieva** works are immunohistochemically determination of ghrelin in the gastrointestinal epithelium in pre-and postnatal development in rats; A study of flow-mediated dilatation on endothelial activation in humans with prehypertension; the role of obesity and adipokines in the development of osteoarthritis and the application of a combination of drugs in the treatment of this disease.

In the two published textbooks, students of the Biology majors at Plovdiv University can find systematized information on the disciplines "General Histology" and "General Pathology". These textbooks serve the students not only in their preparation for the respective exams but will be of great help in their future work in the specialty. I find the test questions in the General Embryology practical guide particularly useful. They give each student the opportunity to check their knowledge after completing a given section.

The opinions of **Assoc. Prof. Georgieva**, as a specialist in the field of Biology, Ecology and Environmental Protection, is highly appreciated by scientists in these fields of knowledge. That is why she has been appointed as a reviewer in some of the most prestigious international journals, such as Ecotoxicology and Environmental Safety, Environmental Pollution, Environmental Science and Pollution Research, Chemistry and Ecology, Biomedicine & Pharmacotherapy, and Journal of Bioscience and Biotechnology. In addition, she is a reviewer of a scientific project at Trakia University, Stara Zagora, and participates in the program committees of the 8th and 9th International Conference of Young Scientists, organized by the Union of Scientists, Plovdiv.

Although there is no requirement for participation in scientific forums in the LDASRB and the Regulations to it, the candidate for the academic position of "professor" applies a list of 40 national and international participations, in the form of oral reports and poster presentations. In this way, **Assoc. Prof. Georgieva** together with the members of the teams she works with presents to the scientific community the most important results of their experimental activity. This further strengthens the importance of her research work.

The candidate not only successfully published the results of the conducted experiments, but also managed to pass on the accumulated scientific research experience to the doctoral students and graduates with whom she worked. **Assoc. Prof. Elenka Georgieva** is the co-supervisor of three doctoral students who examine the influence of some heavy metals and pesticides on the morphophysiological parameters of various farmed fish and successfully defend their dissertations in 2014, 2015 and 2016 respectively (Indicator E13_1, Indicator E13_2, Indicator E13_3). In 2021, a dissertation work on the topic "Influence of dietary supplement PARA® on morphophysiological sperm indicators in men with fertility problems" was defended and **Associate Professor Georgieva** is the sole supervisor (Indicator E13_4). She actively supervises and brings out twelve graduates with educational and qualification degree "Bachelor" in the specialties of Ecology and Environmental Protection, Medical Biology, Biology, Molecular Biology, Ecology of biotechnological productions, as well as two graduates from educational and qualification degree "Master" in the specialties Ecology and Ecosystem Conservation and Reproductive Biology.

Another very important contribution of **Assoc. Prof. Georgieva** is her participation as a leader in four, and as a participant in ten national scientific research projects on the scientific research fund at the Ministry of Education and Science, through which PU "P. Hilendarski" attracted significant funds. In the "Research Reference" file, all the projects are listed, together with all the information about each of them, although only four of the projects are listed under Indicator E14 in Table 1 and Table 2.

The data set out in Table 1 and Table 2 of the Report on compliance with the minimum national requirements of LDASRB and the Regulations for the implementation of LDASPU show that the candidate for the academic position "professor" fully covers the required **50** points under Indicator 1 (Group A) and **100** points under Indicator 3 (Group C). According to the other indicators, **Assoc. Prof. Georgieva's** points significantly exceed the minimum requirements as follows: according to Indicators 7 and 8 (Group D) more than twice - **403** points out of 200 required; according to Indicator 11 (Group D) more than seven times - **704** points out of 100 required; on Indicator 13, 14, 18, 19 and 20 (Group E) almost twice – **286.2** points out of 150 required.

In this opinion, seven scientific papers were submitted by **Assoc. Prof. Elenka Georgieva** in her procedure for acquiring the title of "doctor", 26 publications, a textbook, and a practical guide for acquiring the academic position of "associate professor" are not considered or reviewed in this opinion, as well as the publications with which in 2019 she was entered by NACID in the register of the academic staff of the Republic of Bulgaria. From this information, it is clear that the **47** scientific works presented in the current competition are different from those with which the candidate participated in the previous competitions and undoubtedly confirm its correctness.

Assoc. Prof. Elenka Georgieva repeatedly fulfills each of the criteria specified as additional requirements of the Faculty of Biology at PU "P. Hilendarski" for occupying the academic position of "professor". The reference and scanned files of administrative documents are indisputable evidence of the applicant's administrative and organizational experience. **Assoc. Prof. Georgieva** participated in the accreditation of ECD "Bachelor", specialty Biology, ECD "Master", specialty Reproductive Biology, ESD "Doctor", doctoral program Morphology, as well as in the institutional accreditation of the Developmental Biology department. In addition to being the Head of the Developmental Biology department since 2019, at the moment she has performed/performs the following administrative positions: Deputy Chairman of the Committee on Ethics and Academic Unity at the PU "P. Hilendarski"; Member of the commission for attestation of teachers from the Faculty of Arts (2012 - 2014); Chairman of the commission for attestation of teachers from the Faculty of Arts (2014 - 2016); Coordinator of ECD "Master", Reproductive Biology specialty; Chairman of the state examination committee for the master's program in Reproductive Biology from 2014 to the present; Member of the state examination committee for the specialties Ecology and Environmental Protection, Biology, Biology and Chemistry, Biology and English and Molecular Biology; Head of the vivarium at the Faculty of Biology; Deputy Chairman of the Board of Directors at the BF; Chairman of the ethics commission for scientific research in the Faculty of Science at the PU "P. Hilendarski"; Member of the ethics committee at the BF in 2011; Member of the commission for developing candidate-student exam tests (2013-2016); Member of the committee for the examination of candidate-student works in biology (2013-2017); Chairman of the candidate-student campaign in the Branch of PU "Lyuben Karel" - city Kurdzhali; Member of the Committee on Educational Activities at the Faculty of Biology.

As a sign of great gratitude and appreciation for the active scientific, organizational and administrative activity, the Rector of the PU awards **Assoc. Prof. Elenka Georgieva** with the "Certificate for Personal Contribution" in the development of the PU "P. Hilendarski".

Her high level of competence and professionalism has also been noticed by other scientific organizations. Due to her active participation in the activities of the Union of Scientists in Bulgaria-Plovdiv, **Associate Professor Georgieva** was appointed as a Member of the Union's Management Board, from 2015 to 2018 she was Scientific Secretary in the "Biology" section, and in 2018 and until now is the Chairman of the "Biology" section.

From 2016 to 2022, **Associate Professor Georgieva** was elected as a regular member of a total of 13 scientific juries, of which one was in connection with a competition for a "Doctor of Science",

two for procedures for occupying an academic position "associate professor", four for "chief assistant" and six for ESD "doctor". The candidate is also a preferred researcher in scientific groups outside the PU. In 2013, it concluded a cooperation agreement with the Institute of Fisheries and Aquaculture for conducting experiments with Common carp, and in 2023, an agreement with the "Doverie" Medical Center for practical training of students from the Developmental Biology master's program.

Giving my highest rating to the monographic work "Application of nutritional supplement PAPA® in men with sub/infertility and men with varicocelelectomy", I allow myself to make the following **recommendation**: If possible, the monography should be translated into English (and why not in any other language) and distributed on the Internet so that more researchers in the field of reproductive biology, as well as couples suffering from this problem, can become familiar with it.

CONCLUSION:

After a detailed review and analysis of all the materials presented by **Associate Professor Dr. Elenka Stoilova Georgieva**, in connection with her participation in the competition for the academic position of "professor", I define her scientific and teaching qualifications as **unquestionable**.

In the scientific production of **Associate Professor Dr. Elenka Stoilova Georgieva**, the original scientific and applied contributions stand out, which have received international recognition in the form of publications and citations in prestigious journals and scientific collections. Her scientific research experience finds its continuation over time, through the young doctoral students and graduates that she supervised and successfully defended diploma theses and dissertations.

Everything set out in this opinion gives me a reason to convincingly give my highest **POSITIVE** rating and **TO RECOMMEND** to the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Biology for the election of **Associate Professor Dr. Elenka Stoilova Georgieva** to the academic position "**PROFESSOR** " at PU "Paisii Hillendars-ki" in: field of higher education **4**. Natural sciences, mathematics and informatics, professional direction **4. 3**. Biological sciences (scientific specialty Morphology).

03 April 2023

Opinion Prepared by: (signature)
/Assoc. Prof. Dr. Penka Yonkova/