

REVIEW

by Dr. Georgi Penchev Georgiev - Professor at Trakia University, Stara Zagora -
Faculty of Veterinary Medicine

of the materials submitted for participation in a competition for the academic position of
"professor" at University of Plovdiv "Paisii Hilendarski" by: field of higher education Natural
sciences, mathematics and informatics, professional area Biological Sciences (Morphology)

In the competition for "professor", announced in the State Gazette, № 92./ 18.11.2022.
and on the website of Plovdiv University "Paisii Hilendarski" for the needs of the Department of
"Developmental Biology" at the Faculty of Biology, as a candidate participates Associate
Professor Dr. Elenka Stoilova Georgieva from University of Plovdiv, Faculty of Biology.

1. General presentation of the received materials

In paper and electronic media, I was provided with the applicant's materials for
participation in the competition, very well completed and arranged in 3 folders: Administrative
documents, Other scanned documents and Scanned copies of scientific works.

By order No. P21-331/ 02.15.2023. of the Rector of the University of Plovdiv "Paisii
Hilendarski" (PU) I have been appointed as a member of the scientific jury of a competition for
the academic position of "professor" in the PU in the field of higher education ..Natural sciences,
mathematics and informatics, professional area .Biological sciences (Morphology), announced
for the needs of the "Developmental Biology" department at the Faculty of Biology.

The set of paper-based materials presented by Assoc. Dr. Elenka Stoilova Georgieva is
in accordance with the Regulations for the Development of the Academic Staff of the PU, and
includes the following documents:

- Request to the Rector for admission to participate in the competition.
- European-style autobiography.

- A higher education diploma with a Master's degree.
- Diploma for educational and scientific degree "doctor".
- Certificate of academic position "associate professor".
- List of scientific works
- Scientific works /copies of the publications/.
- Certificate of compliance with the minimum national and additional faculty requirements.
- Declaration of originality and authenticity of the attached documents
- Annotations of the materials under Article 76 of the PRASPU /in Bulgarian and foreign languages/.
- Self-assessment of contributions.
- List of citations.
- Document /certificate/ of work experience.
- Documents for study and teaching work.
- Research papers
- Reference and documents, according to the additional requirements of the faculty.
- Other documents
- Set of paper documents from item 1 to item 17 - 4 pieces.
- Set of documents from items 1, 2, 6, 8, 10, 11 /indication of other documents from items 3, 4, 5, 7, 9, 12, 13, 14, 15, 16, 17/ on electronic media – 8 pieces

The candidate Assoc. Prof. Elenka Georgieva applied a total of 44 scientific works, 1. independent monograph, .1 collective monograph, 2 textbooks and 1 manual. 24 scientific works are accepted for review, which are outside the dissertation and outside those used for registration in NACID. 19 scientific papers published in the renowned scientific journals, most referenced in Web of Science and Scopus, but not having a numerical expression of impact factor and impact

rank and not falling into the quartiles specified in the table for the minimum requirements for Biological Sciences, are not peer-reviewed.

2. Brief biographical data of the candidate

Associate Professor Dr. Elenka Stoilova Georgieva was born on August 17, 1960. She received her secondary education at the secondary school "Yavorov", Plovdiv, after which she graduated from the Semi-Higher Medical Institute with the profile of a nurse. In 1991, she graduated as a master with excellent personal success at University of Plovdiv "Paisii Hilendarski". She began his work experience as a medical registrar at the First City Hospital, Plovdiv, after which he worked for 2 years as a biology teacher and for one year as a part-time assistant in the "General Biology" department of the Faculty of Biology. Since 1994 she has been a full-time assistant, and then successively rose to senior and chief assistant in the Department of Developmental Biology. In 2010 she was elected as an Associate Professor in the scientific specialty "Morphology" /histology and embryology/ - certificate of scientific title from VAK No. 26501/12.08.2010. In 2005, after successfully defending her dissertation, she obtained PHD degree of the National Academy of Sciences - Diploma No. 29592/07.03.2005.

3. General characteristics of the applicant's activity

Assoc. Prof. Elenka Georgieva has nearly 29 years of teaching experience. A very detailed report on the educational and teaching activities by years is presented. At the "Bachelor" the candidate gives lectures and exercises in the disciplines: Embryology and Histology, Biology and Human Development, Histology and Pathology, Reproductive Biotechnologies in the various specialties, courses and forms of education at the Faculty of Biology, Plovdiv and in the branches of Plovdiv University in the city of Kardzhali and the city of Smolyan. In the last 5 years, the annual norm for auditorium occupancy has been twice or more exceeded. Assoc. Prof. Georgieva is the coordinator of the master's program "Reproductive Biology" and actively participates in the

development of the curriculum; the preparation of all necessary documentation and the organization of student training. In "Biopharmaceutical Biochemistry", "Applied Molecular Biology" and "Microbiological Control and Food Safety" master's programs lead to the optional discipline "Embryology and Histology" with non-biological students. Under her leadership, 14 graduates have defended their theses. Assoc. Prof. Georgieva was the scientific supervisor of one PHD student and co-supervisor of three others who successfully defended their dissertations and received the title of "Doctor". To support the preparation of students in the taught disciplines, the candidate has independently published 2 textbooks - General Histology, 2022, University Publishing House "Paisii Hilendarski", page 259, ISBN 918-619-202-812-1 and General Pathology, 2022, University Publishing House " Paisii Hilendarski", page 209, ISBN 918-619-202-813-8. Also presented is Manual to General Embryology, 2022, p. 106, Paisii Hilendarski University Publishing House, ISBN 918-619-202-816-9.

Fulfillment of minimum national requirements

Table 1. Minimum required points by indicator groups and applicant compliance

Group of indicators	Indicators	Professor	Assoc. Prof. El. Georgieva
A	Indicator 1	50	50
B	Indicator 1	-	...
C	Indicator 3 or 4	100	100
D	Indicators from 5 to 10	200	403
E	Indicator 11	100	704
F	Indicators from 12 to 20	150	286.2
	Sum total of points	600	1543

In the announced competition for the academic position "Professor", associate professor Dr. Elenka Georgieva presents:

According to group of indicators A – a dissertation work for awarding PHD educational and scientific degree - 50 points

By group of indicators C- monograph on the topic "Application of nutritional supplement PARA in men with sub/infertility and men with varicocele", ISBN 978-619-411-3 - 100 points

By group of indicators D - a total of 403 points received from:

1. Articles and reports published in scientific publications, referenced and indexed in world-famous databases with scientific information Web of Science and Scopus - a total of 24, distributed in: Q1-4, Q2-3, Q3-8 and Q4-9 with a total of 388 points.

2. Published book chapter or collective monograph with a total of 15 points.

According to group E indicators – a total of 704 points received from:

1. Citations in learned publications and monographs, referenced and indexed in world-famous databases with scientific information - Web of Science and Scopus - a total of 352.

By indicator group F – a total of 286.2 points obtained from:

1. Supervision of 1 successfully defended PHD student and co-supervision of 3 PHD students – 125 points

2. Participation in a national scientific or educational project - a total of 4 with 40 points

3. Attracted funds for projects led by the applicant /1 point for every BGN 5,000/ a total of 4 with 21.2 points.

4. Published university textbook – $2 \times 40 = 80$ points.

5. Published guidance – 20 points.

In addition to those presented in fulfillment of the minimum requirements, the candidate presents many more activities that complement the rich scientific and scientific-applied activity:

1. Participation in scientific forums - a total of 40, of which 3 abroad /Greece, Turkey, Kazakhstan/, 15 national with international participation and 22 national.

2. Reviewer in prestigious scientific journals such as: Ecotoxicology and Environmental Society, Environmental Pollution, Environmental Science and Pollution Research, Chemistry and Ecology, Journal of BioScience and Biotechnology.

3. Participation in the program committee of 2 international scientific conferences held in the city of Plovdiv in 2020 and 2022.

4. Participation in Scientific juries:

- For "Doctor of Sciences" - 1

- For PHD - 5

- For academic positions – associate professor – 1; chief assistant -2 and assistant - 1

Associate Professor Elenka Georgieva has impressive organizational and administrative experience, evident from the presented reference for the additional requirements of the Faculty of Biology.

1. Participation in the accreditation of: OKS "Bachelor"-special. Biology; OKS "Master"-specialist. Reproductive Biology; PHD program Morphology; institutional accreditation of the Department of Developmental Biology.

2. Participation in administrative activities: head of the "Developmental Biology" department; deputy Chairman of the Ethics Commission at the PU; head of the vivarium at the Faculty of Biology; chairman of the ethical committee for scientific research in the Faculty of Science at the PU; deputy Chairman of the Board of Directors of the Faculty of Arts at PU; chairman of the attestation commission at the BF /2014-2016/.

3. Participation in the preparation of a candidate student campaign: member of a committee for checking candidate student works in biology; member of the committee for the preparation of exam tests in biology; chairman of the SE committee for the master's program "Reproductive Biology".

4. Member of the editorial board of the journal JBB, edition of the BF at the PU.

5. Chairman of the Biology Section at Union of scientists, Plovdiv

Contributions of a scientific or scientific-applied nature in the submitted materials for participation in the competition for the academic position of "professor" in the scientific specialty of Morphology can be referred to the following areas:

1. Contributions regarding the application of a multi-biomarker approach to the analysis of changes in the gill and liver in representatives of fish of the Cyprinidae family under the influence of toxicants. This is a major thematic problem in the candidate's scientific research, evident from the fact that Prof. Georgieva is the lead author or in second place in the collective developments. The results of this group of studies are reflected in 13 scientific publications submitted to meet the national minimum requirements and refereed in journals in Web of Science and Scopus. There are also 11 publications from the additional list /item 6 of the materials/ on the same issue. Through the established destructive changes in the gills and liver of various freshwater fish, the toxic impact of some heavy metals and frequently applied pesticides in agriculture is clarified. On the basis of analyzes and a complex assessment, including histopathological, histochemical, biochemical and physiological changes, as well as comparative studies, it is possible to build a model for the assessment of the contamination of water ecosystems with priority organic pollutants.

2. Contributions to the assessment of expression of leptin, nerve growth factor (NGF) and adiponectin in women with metabolic syndrome. This issue is addressed in publication G7-3, which for the first time demonstrated a complex of immunochemical and immunohistochemical studies and concluded that leptin, adiponectin, and NGF could be used as biomarkers to predict metabolic syndrome risks.

3. Contributions to analyzing ghrelin as an ontogenetic factor and gastrointestinal hormone in the prenatal and postnatal period in rats. This topic is represented in publication G7-3. For the first time, immunohistochemical analysis showed that ghrelin-producing cells differentiate in embryonic development and are expressed in the endoblastic epithelium on gestational day 12. Ghrelin was also detected in the epithelial lining of the stomach and small intestine of day-old rats.

4. Contributions related to the relationship between flow-mediated vasodilation and some biomarkers of endothelial activation in patients with prehypertension. The results on this issue are presented in publication G7-4. A key factor for early prediction of cardiovascular abnormalities is endothelial dysfunction. The relationship between clinical biomarkers, mediated flow dilation, endothelial dysfunction and their role as a predictor of prehypertension is demonstrated.

5. Contributions to the study of mussels as good bioindicators in toxicological studies and integrated monitoring programs. 3 publications are dedicated to this group of studies: Г7-7, Г7-10 and Г7-17, in which the results of research on the toxic effect of different concentrations of cadmium and polycyclic aromatic hydrocarbons on mussels, expressed in destabilization of the lysosomal membrane in hemocytes, are presented and their bioaccumulation in the gills. The toxicity of the two toxicants is proven, as well as the possibility that the analyzes of the studied indices can be successfully applied as biomarkers in future monitoring and assessment of the pollution risk of freshwater ecosystems, as they are fast and cheap. Additional information is provided in 2 more publications: Г7-14 and Г7-21, which reflect the results of active monitoring applied for the first time, which combines data from moss and clam transplants to study the water quality in the Kardzhali Dam, Studen Kladenec Dam and Zhrebchevo dam.

6. Contributions related to the use of nutritional supplements to improve sperm status in infertile men and men with varicocele. This topic is presented in the presented monographic work related to the application of a complex of analyzes - sperm analysis, four tests for determining the state of sperm chromatin, as well as a test for the attachment ability of spermatozoa in determining the effect of a three-month intake of the multi-component food supplement PAPA. Based on the results obtained, it is recommended to use the nutritional supplement for at least three months in infertile men and those with varicocele.

7. Contributions in the field of osteoarthritis related to the study of serum leptin and resistin levels and establishing the effect of certain drugs in mice with collagenase-induced osteoarthritis. 2 publications are devoted to this issue - G7-19 and G7-20, in which, based on histological examination, it is established that treatment with metformin combined with alendronate significantly reduces the degree of cartilage degeneration, which suggests that this combination can be a useful treatment approach for patients with osteoarthritis.

8. Contributions in the field of educational activity. 2 textbooks and a manual are presented, which are intended for students of various biological specialties of the University of Plovdiv. The topics discussed in the proposed teaching aids are aligned with the curricula of the relevant disciplines.

4. Assessment of the candidate's personal contribution

Most of the publications are collective developments with a multidisciplinary focus, but the presented results highlight Assoc. Prof. Elenka Georgieva as a well-established morphologist.

5. Critical remarks and recommendations

With such high-quality scientific production, rich teaching work and diverse administrative activities, I cannot allow myself to make critical remarks.

CONCLUSION

The documents and materials presented by Associate Professor Elenka Georgieva meet all 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 relevant Regulations of PU "Paisii Hilendarski".

The results achieved by Prof. Elenka Georgieva in the educational and scientific-research activity fully correspond to the minimum national and additional requirements of the Faculty of Biology, adopted in the Regulations of the PU in connection with the application of the Law on the Development of the Academic Staff in the Republic of Bulgaria.

After getting acquainted with the materials and scientific works presented in the competition, analyzing their significance and the scientific, scientific-applied and applied contributions contained in them, I find it reasonable to give my positive assessment and to recommend the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Biology for the election of Associate Professor Elenka Stoilova Georgieva to the academic position of "PROFESSOR" at University of Plovdiv "Paisii Hilendarski" in the field of higher education Natural Sciences, Mathematics and Informatics, professional area Biological Sciences (Morphology).

07/04/2023

Reviewer:

Prof. Georgi Penchev, PHD