

БЪЛГАРСКА АКАДЕМИЯ НА НАУКАТЕ
И-Т ПО ЕКСПЕРИМЕНТАЛНА МОРФОЛОГИЯ,
ПАТОЛОГИЯ И АНТРОПОЛОГИЯ С МУЗЕЙ
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СОФИЯ

On: Competition for the occupation of the academic position “Associate Professor” in the Area of Higher Education 4. Natural Sciences, Mathematics and Informatics, Professional Field 4.3. Biological sciences, Scientific specialty 01.06.26 “Morphology”, announced by IEMPAM – BAS, in the State Gazette, number 16/23.02.2021
by Prof. Tsvetanka Tsankova Marinova, MD, PhD, DMSc, Faculty of Medicine of Sofia University “St. Kliment Ohridski“

Information on the competition procedure

The competition for the occupation of the academic position "Associate Professor" in the professional field 4.3. Biological sciences, Scientific specialty 01.06.26 “Morphology”, is announced for the needs of the Experimental Morphology Section in the Bulgarian Academy of Sciences, Institute of Experimental Morphology, Pathology and Anthropology with Museum (IEMPAM – BAS). The competition announcement was published in the State Gazette, number 16/23.02.2021. The composition of the Scientific Jury was determined by an Order of the Director of IEMPM – BAS No. RD-09-10 of 10.03.2021 on the grounds of a decision of the Scientific Council of IEMPM - BAS (Protocol No. 6/01.03.2021).

One candidate participates in the competition: Chief Assistant Ekaterina Hristova Pavlova, PhD.

The regulatory requirements for the competition procedure have been met.

The review was prepared in accordance with the Law on Development of Academic Staff in the Republic of Bulgaria (LDASRB), the Rules for the Implementation of the LDASRB and the Rules for the Conditions and Procedure for Acquiring Scientific Degrees and Occupation of Academic Positions at IEMPAM – BAS.

The applicant's documents are in compliance with the regulative requirements for admission and participation in the competition for the occupation of the academic position “Associate Professor” at IEMPAM – BAS. They are presented in sequence from No. 1 to

No. 16 and include supporting evidence: Curriculum Vitae; Higher education diploma; Diploma for educational and scientific degree “Doctor”; Document for academic position “Chief Assistant”; Abstract of the dissertation; Certificate for work experience in the specialty; List of scientific publications (list of all publications and list of publications submitted for participation in the competition); List of participations in scientific forums; List of participations in projects; Reference according to the form for meeting the national minimum requirements for holding the academic position "Associate Professor" in IEMPAM – BAS with evidence; Reference of citations; Reference to original scientific contributions; Scientific papers submitted for participation in the competition; Copy of the announcement in the State Gazette; Other documents and materials about the candidate's activity.

Applicant's curriculum vitae and academic development

Chief Assistant Ekaterina Hristova Pavlova, PhD was born in 1979 in Pleven. She obtained a Master degree in “Biology – Cell Biology and Pathology” at the Faculty of Biology, Sofia University “St. Kliment Ohridski“ (Diploma Reg. No. M168266/12.03.2004).

She was awarded the educational and scientific degree “Doctor” in 01.06.26. “Morphology” in 2014 (Diploma No. 000379/20.01.2014, IEMPAM – BAS).

Diploma for the academic position of "Chief Assistant" specialty "Morphology" was awarded with Certificate No. 000555, issued on 13.02.2014, BAS - IEMPAM.

Ekaterina Hristova Pavlova has been working consecutively at IEMPAM - BAS, Experimental Morphology Section as a biologist - specialist (01.2011 - 07.07.2011), assistant (07. 2011 - 01.2014) and chief assistant (from January 2014 until present).

During the above periods period she performed various types of administrative, organizational and expert activities at the IEMPAM - BAS, participated in organizational and program committees of international and national scientific forums, specialized in the country and abroad (Copenhagen, 2009) and received two awards (in Bulgaria and

Germany). She is a member of five scientific organizations (BAS, NYRA, ISA, IFAA, EFEM).

Scientific research and scientometric data

The applicant's scientometric data, evaluated in their wholeness, are in compliance with the criteria and indicators recommended in the regulations for evaluation by the Scientific Jury at conducting a competition for "Associate Professor". The scientific papers submitted for review are from the area of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.3. Biological sciences, Scientific specialty 01.06.26 "Morphology".

Chief Assistant Ekaterina Pavlova is the author of published and reported scientific papers with very significant contribution in the field of experimental morphology, toxicology and biochemistry. Her dissertation for the award of educational and scientific degree "Doctor" is on "Morpho-functional Characteristics of Estrogen Action of Mammalian Spermatogenesis", Sofia 2014, 167 pages. Supervisor is Prof. Nina Atanasova, PhD, DSc.

The number of published scientific papers in English is 54 (7 of them are in connection with the dissertation): Scientific publications for participation in the competition for the academic position of "Associate Professor" – 18 (No 1 – No 18); Scientific publications for acquiring the educational and scientific degree "Doctor" – 7 (No 19 – No 25); Other scientific publications in peer-reviewed and indexed journals and in collections of scientific forums – 29 (No 26 – No 54); Author's abstract of dissertation for educational and scientific degree "Doctor", extended summaries – one, and abstracts in journals with impact factor – 8 (No 1 – No 8) are also attached.

The number of reported scientific papers in international and national scientific forums is 113, of which at international conferences - 52 (No 1 – No 52), at national conferences with international participation - 16 (No 53 – No 68), at national forums – 45 (No 69 – No 113).

Dr. Ekaterina Pavlova has participated in 16 research projects (including as a leader - two projects, international projects – four, and national projects - ten).

According to the information provided 114 citations are found in the *Scopus* and *Web of Science* databases.

The values of the impact factor (IF) from publications and summaries of Dr. Ekaterina Pavlova are: the total IF - 62.293, from articles - 43.708, the individual IF - 10.244, from articles - 6.587).

The most significant contributions from the scientific work of Dr. Ekaterina Pavlova are reflected in detail in the "Author's reference for the contributory nature of scientific works" attached to the documents of the competition. They have theoretical, methodological and scientifically applied medical-biological character.

The influence of various environmental factors on the morpho-functional characteristics of spermatogenesis, hematopoiesis and some brain structures has been studied in experimental in vivo models through classical and modern scientific approaches and methods.

The most significant original scientific contributions, reflected in the scientific works of Dr. Ekaterina Hristova Pavlova, can be systematized in three main areas:

I. Morpho-functional aspects of mammalian spermatogenesis

Original experimental approaches have been developed that make it possible to identify specific changes in testicular cell populations and to identify biomarkers for endocrine and metabolic disorders.

The risks of using substances widely used in the pharmaceutical industry have been clarified.

Pathomorphological and biochemical changes in the testis and in the reproductive capacity ability as a result of intoxication with metal salts and application of antidotes are monitored.

I.1. Contributions in the field of endocrine and paracrine regulation of spermatogenesis

I.1.1. Original data on different sensitivity of different types of germ cells to treatment with estrogens and their significance for the analysis of mammalian spermatogenesis (scientific publications 19, 20, 21, 22, 23, 24, 25, 26, 44).

I.1.2. Original model of testosterone deficiency by selective destruction of Leydig cells using ethane dimethanesulfonate (scientific publications 3, 26).

I.1.3. Original research Studies on metabolic disorders as a risk factor for male infertility have been performed using experimental models for inducing diabetes and using a high-fat diet (scientific publications 40, 46, 53).

I.1.4. The role of the testicular angiotensin-converting enzyme (tACE) as a marker for the differentiation of the postmeiotic stages of spermatogenesis (spermatids) in experimental models leading to infertility (androgen deficiency, diabetes) has been clarified (scientific publications 9, 40, 45, 52).

I.1.5. New clinical data on the effect of N, N-Dimethylacetamide on spermatogenesis have been obtained (scientific publications 16, 17).

I.1.6. Original data on the intracellular signaling mechanisms of action of insulin-like growth factors (IGFs) in the testis have been obtained (scientific publication 11).

I.2. Contributions from studies on the effects of the environment on spermatogenesis in mammals

Three types of original experimental models have been developed for in vivo study of the effects of sodium nitrite and heavy metal salts (cobalt, lead and cadmium) on spermatogenesis and reproductive capacity (scientific publications 1, 2, 13, 30, 31, 36, 37, 38, 39, 47, 49, 51).

II. Functional neuromorphology

II.1. New experimental data have been obtained on the expression of the angiotensin II receptor, type 1 (AT1 receptor) and its antagonists in the limbic structures of the brain with possibilities for application in medical practice (scientific publication 4).

II.2. New data have been obtained on the effect of cobalt on brain structure and changes in the expression of key proteins and their receptors (scientific publications 5, 53).

III. Mechanisms of action of chemical agents (cobalt, nitrites, lead) and their bioaccumulation in various organs of rodents in acute, subacute and chronic treatment.

Original results have been obtained from studies on sodium and cobalt salts used as dietary supplements in medical practice with a stimulating effect on erythropoiesis, using two methodological approaches and comparative analysis (scientific publications 5, 8, 10, 12, 14, 18, 28, 32, 33, 34, 35; 41, 43, 50, 53, 54).

Dr. Ekaterina Hristova Pavlova is registered in the Register of Scientific Activity at NACID. The comparative analysis of the minimum national requirements under Art. 2b of the Law on Higher Education in the field of higher education 4. Natural sciences, mathematics and informatics, Professional field 4.3. Biological Sciences with the attached reference to the real points of the candidate shows that Ekaterina Pavlova meets the minimum national requirements for holding the academic position of "Associate Professor".

The detailed analysis of the respective groups of indicators A/A, B/Б, C/В, D/Г and E/Д of Dr. Ekaterina Pavlova proves the following: Indicators A (50 points) and C (100 points) meet the national requirements, indicator D is 264 points at a minimum value of 200 points. Indicator E is 68 points at a minimum value of 50 points. The total number of points of indicators A, C, D and E of Dr. Ekaterina Pavlova is 482 points with a minimum number as a national requirement for the academic position "Associate Professor" - 400 points. By indicators D and E the values of Dr. Ekaterina Pavlova exceed the minimum national requirements.

Conclusion

Chief Assistant Ekaterina Hristova Pavlova, PhD, participating in the competition for the occupation of academic position of "Associate Professor" is a highly qualified specialist, hardworking and established researcher with significant scientific work and original contributions in the field of experimental morphology, toxicology and biochemistry. She shows consistency, perseverance, competence and precision in all aspects of her research activity.

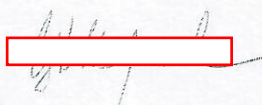
Dr Pavlova's scientometric data are not only in compliance, but also exceed the national minimum requirements, the regulative criteria and indicators for evaluation of candidates in conducting a competition for the academic position "Associate Professor".

In general, the original scientific results obtained by Ekaterina Pavlova have an indisputable fundamental, methodological and scientifically applied contribution character in morphological and medico-biological aspect with possibilities for application in medical practice.

The complex evaluation of her documents gives me grounds for a positive opinion. Therefore, I propose to the honourable members of the Scientific Jury to decide on the election of Chief Assistant Ekaterina Hristova Pavlova, PhD for "Associate Professor" in professional field 4.3. Biological Sciences, scientific specialty 01.06.26 "Morphology" and occupation of this this academic position at the Section "Experimental Morphology" of IEMPAM - BAS.

06th June 2021

Sofia



Member of the Scientific Jury:

(Prof. Ts. Marinova, MD, PhD, DMSc)