

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

OPINION

in a competition for the academic position "Associate Professor" in field 4. Natural Sciences, Mathematics and Informatics, professional field 4.3. Biological sciences, scientific specialty "Morphology" at IEMPAM-BAS with candidate Ekaterina Hristova Pavlova, Ph.D., Assistant Prof.
by: Prof. Dr. Ludmil Penuv Kirazov

The competition for the academic position of "associate professor" in scientific field 4.3. Biological Sciences, specialty 01.06.26 Morphology was announced in State Gazette, issue 16/23.02.2021, for the needs of the section "Experimental morphology" of IEMPAM.

The only candidate in the competition is Assistant Professor Ekaterina Hristova Pavlova, Ph.D. The procedure for opening and announcing the competition has been followed. The candidate has submitted all the documents required by law to participate in the competition.

Ekaterina Pavlova graduated in 2004 from the Faculty of Biology at Sofia University with a master's degree in Cell Biology and Pathology. He has been with IEMPAM since 2004 and has 16 years of work experience at the institute, passing through the positions of specialist, assistant and chief assistant. In the period 2006 - 2010 (with a two-year maternity break) he worked on his doctoral dissertation on "Morpho-functional characteristics of estrogenic action on mammalian spermatogenesis" and acquired Educational and Scientific Degree doctor.

Assistant Professor Pavlova participated in the competition with 18 publications, presenting the equivalent of a habilitation thesis of 5 publications in publications that are referenced and indexed in world-famous databases of scientific information. She also presents 13 publications in renowned international journals. She has 34 citations on Scopus, and together with the citations from other sources the number is 114. With the presented materials the minimum required points by groups of indicators in the professional field "Natural Sciences, Mathematics and Informatics" are fulfilled and exceeded.

The overall impact factor is impressive - 43,708 from articles and 18,585 from abstracts, as well as participation in international and Bulgarian scientific forums - total for oral reports and posters they are 113. She has led 2 projects and participated in 14, funded by various sources.

In her experimental work Assistant Professor Ekaterina Pavlova uses a wide range of research methods including *in vivo* models, biochemical methods, histological techniques and immunohistochemistry, *knockout* models and others.

One of the main directions of Pavlova's research work is the study of functional aspects of spermatogenesis in mammals. An analysis of the effect of additives used in the pharmaceutical industry is made. A model involving selective Leydig cell lesion as well as a diabetes induction model was used. The study of the influence of the solvent dimethylacetamide, widely used in the pharmaceutical industry, which has been shown to have a negative effect on spermatogenesis, is extremely relevant. Interestingly, this agent can be considered as a potential male contraceptive. The role of sodium and heavy metals in spermatogenesis and reproductive capacity and the possibility of using deferiprone and salinomycin as potential antidotes for the treatment of induced testicular disorders have been investigated in original *in vivo* models.

Another main direction in the research work of Assistant Professor Ekaterina Pavlova is in the field of functional neuromorphology. Highlights include studies of changes in the expression of angiotensin II receptor, type 1 (AT1 receptor) in the limbic structures of the brain, as well as the effect of the AT1 receptor antagonist losartan in a model of comorbid hypertension and epilepsy. The important role of the AT1 receptor in epilepsy has been confirmed and the use of AT1 antagonists as a therapeutic strategy for the treatment of comorbid hypertension and epilepsy has been proposed.


A number of experiments have studied the effects of cobalt, nitrites and lead on erythropoiesis and metal homeostasis, as well as their accumulation in various organs.

Due to the limited scope of the opinion, I cannot dwell on all the contributions of Assistant Professor Ekaterina Pavlova.

CONCLUSION:

The candidate has a clearly defined profile of the research work in the field of the announced competition. She is a prominent specialist and the scientometric indicators cover the requirements of the law and the regulations of IEMPAM. This gives me grounds to give a positive assessment and to recommend to the scientific council of IEMPAM to vote for the election of Assistant Professor Ekaterina Pavlova at the academic position of "Associate Professor".

31.05.2021


(Prof. L. Kirazov)