

## STATEMENT

by Prof. Dobri Lazarov Ivanov, PhD  
Department of Biology, Faculty of Pharmacy  
Medical University "Prof. Dr. P. Stoyanov" - Varna,  
member of the Scientific Jury, according to Order No R-109-131 from 22.02.2023  
issued by the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov", Varna

**Regarding:** competition for the acquiring of an academic position "Professor" in the area of higher education 4. Natural sciences, mathematics and informatics, professional field 4.3. Biological sciences, scientific specialty „Physiology“ for the needs of the Department of „Physiology and Pathophysiology“ at the Faculty of Medicine at the Medical University - Varna, announced in State Gazette no. 102/23.12.2022 г.

### 1. Brief information about the procedure

Based on the decision of the Faculty Council of the Faculty of „Medicine“ (Protocol No. 80/23.01.2023) and the order of the Rector of the Medical University - Varna (No. P-109-131 from 22.02.2023), I have been elected a member of the scientific jury, and by protocol No. 1/06.03.2023 I have been appointed to prepare a statement on the procedure for acquiring the academic position of "Professor" for the needs of the Department of „Physiology and Pathophysiology“ at the Faculty of Medicine at the Medical University - Varna, in the area of higher education 4. Natural sciences, mathematics and informatics, professional field 4.3. Biological sciences, scientific specialty „Physiology“

The only candidate in the competition is associate professor Margarita Stefanova Velikova, PhD. The applicant has submitted all relevant documents in accordance with the requirements of the Development of the Academic Staff in the Republic of Bulgaria Act, its implementing Regulations and the Rules for Development of Academic Staff of Medical University of Varna.

### 2. Brief information about the applicant

Associate professor Velikova graduated from VMI – Varna in 1988, specialty medicine. From 2006 to 2009, incl. she is a PhD student in the Department of „Physiology and Pathophysiology“, specialty “Animal and human physiology”. In 2010, she defended doctoral thesis in a scientific specialty 06.01.17. "Animal and Human Physiology". In the period 1991 -

2012, she successively held the positions of "assistant professor", "senior assistant professor" and "chief assistant professor ". In 2012, she obtained her habilitation as an "associate professor" in the specialty "Physiology" at the Department of "Physiology and Pathophysiology". Since 1995, she has acquired the medical specialty "Physiology".

### **3. Educational and teaching activity**

Associate professor Velikova has a teaching experience of over 31 years. She conducts lectures and exercises in physiology to medical and dental students (in English), dental medicine and pharmacy (in Bulgarian). The average annual academic workload of associate professor Velikova for recent years has been over 600 hours and significantly exceeds the 126 hour requirements for the position. Independently and in co-authorship, he participated in the publication of 8 teaching handbooks.

### **4. Presented scientific production and scientometric data**

Associate professor Velikova participated in the competition with **53** scientific works. Of these, **32** in journals referenced in Web of Science and/or Scopus and **21** articles published in peer-reviewed journals, proving the fulfillment of the minimum requirements for occupying the academic position of "professor".

**A1:** Doctoral dissertation thesis - 50 points.

**B4:** Scientific publications in editions that are referenced and indexed in world-famous databases with scientific information - 10 items - **174** points for the required 100 points.

**G7:** The candidate has **20** items - **349** points with a mandatory minimum of 200 points according to indicator G.

The publications of Associate Professor Velikova are in the scientific field of the announced competition. She has over **50** participations in scientific forums.

The total number of citations according to indicator **D11** is **116**, which carry **232** points and significantly exceed the minimum requirements. The total real impact factor of her publications is **(IF) 57.754**. She supervised 2 PhD students who successfully defended their theses (**75 т. - E13**). She works as a researcher on **3** national scientific projects (**30** points - **E14**) and has published 8 teaching handbooks (**54,66** points - **E20**), or a total of points for a group of indicators

E is **159** points, with a requirement of **150** points, without applying the requirement  $\geq$  **100** points from indicator **E13**.

### **5. Evaluation of scientific activity and scientific contributions**

Assoc. Prof. Velikova has clearly defined 5 essential scientific contributions. Priority is given to research in the field of experimental neurophysiology, on the involvement of the brain endocannabinoid system (ECS), renin-angiotensin system (RAS), brain vasoactive intestinal peptide (VIP) in the mechanisms of the depressive-like state induced by bilateral olfactory bulbectomy (OBX) in rats. Stereotaxic technique and modern physiological, pharmacological, behavioral methods were used in the experiments, resulting in valuable data.

Original data are provided on the role of hippocampal angiotensin receptors, VIP receptors and brain cannabinoid (CB1) receptors in some behavioral reactions - locomotor activity, anxiety, pain perception, learning and memory in a depressive-like state (OBX). Another significant scientific contribution is related to the established lateralization of the behavioral responses of brain structures (hippocampus, amygdala), upon microinjection of neuropeptides (VIP, Ang II), antagonists of their receptors and cannabinoid CB1 receptor ligands (HU 210 and SR 141716A) in rats with OBX model of depression. For the first time, lateralized effects of VIP, Ang II and losartan (AT1 receptor antagonist) on locomotor activity and of CB1 receptor ligands (agonist/antagonist) on the nociceptive response when injected into the hippocampal CA1 field have been established. Data on hemispheric asymmetry in learning and memory processes following microinjection of VIP and Ang II into the hippocampus and amygdala are also original. The data on the involvement of hippocampal angiotensin receptors in the manifestation of some physiological reactions in rats - exploratory activity, pain, anxiety-like state, learning and memory are of contributing importance.

The research contributes to uncovering the physiological role of brain neuropeptides, (VIP, Ang II), endocannabinoids and their receptors in the control of behavioral responses and provides new data to clarify their potential involvement in the pathophysiological mechanisms of the depressive state.

In addition, of contributing importance are the studies providing new data on the involvement of the hormones of the hypothalamic-pituitary-thyroid (HHT) hormonal axis in the

regulation of hemocoagulation and fibrinolysis in rats. The study of the mental health of medical students and the reactivity of the human organism to stress is relevant and practically oriented.

## **6. Conclusion**

Based on the materials submitted for the competition from associate professor Velikova, I am convinced that she fully meets the requirements of the Development of the Academic Staff in the Republic of Bulgaria Act, it's implementing Regulations and the Rules for Development of Academic Staff of Medical University of Varna for acquiring an academic position "Professor". Associate professor Velikova is a very well prepared specialist and teacher of physiology, and I strongly recommend to the scientific jury to award associate professor Margarita Stefanova Velikova, PhD academic position "Professor" in the area of higher education 4. Natural sciences, mathematics and informatics, professional field 4.3. Biological sciences, scientific specialty „Physiology“, for the needs of the Department of „Physiology and Pathophysiology “ at the Faculty of Medicine at the Medical University - Varna

City of Varna  
27.04.2023

Member of the scientific jury:



(Prof. Dobri Lazarov Ivanov, PhD)