

STATEMENT

by Assoc. Petya Pavlova Markova, PhD
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Member of the Scientific Jury, according to the Order № P-109-131/22.02.2023 of the Rector of the Medical University "Prof. Dr. Paraskev Stoyanov"- Varna,

Subject: competition for the academic position of Professor in the scientific specialty Physiology, Professional field 4.3.4. Physiology and Pathophysiology, announced in the State Gazette, issue 102/23.12.2022.

1. Information about the competition

On the basis of the decision of the Faculty Council of the Faculty of Medicine, Medical University "Paraskev Stoyanov" - Varna by Protocol 80/23.01.2023 and by Order №P-109-131/22.02.2023 of the Rector of MU-Varna I have been elected as a member of the scientific jury. By Protocol No.1 of the meeting of the scientific jury dated 06.03.2023 I am appointed to prepare an opinion in connection with the procedure for filling the academic position of "Professor" in the specialty "Physiology", Professional field 4.3. 4. Physiology and Pathophysiology.

The only candidate in the competition is Assoc. Prof. Dr. Margarita Stefanova Velikova, PhD, Department of Physiology and Pathophysiology, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. The documents submitted for participation in the competition were prepared diligently, organized, well arranged and are in full compliance with the requirements of the Academic Staff Development Act in the Republic of Bulgaria, the Regulations for its implementation and the Regulations for the Development of Academic Staff of MU-Varna.

2. Brief biographical details and career profile

Assoc. Prof. Dr. Margarita Stefanova Velikova, Ph.D. was born in the town of Varna in 1963. She graduated the First English Language School in 1982 and the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, specialty "Medicine" in 1995.

The academic path of Assoc. Prof. Dr. Velikova, Ph.D. began in 1991 in the Department of Physiology, Medical University of Varna, where she held successively the academic positions of Assistant Professor, Senior Assistant Professor and Senior Assistant Professor. In 1988 she

obtained the specialty "Physiology", in 2010 she defended her dissertation thesis entitled: "Behavioural responses induced by vasoactive intestinal peptide introduced into the hippocampus of rats with an experimental model of depression" for obtaining the educational and scientific degree "Doctor" in the scientific specialty: 01.06.17. "Animal and Human Physiology, SAC. In 2012 she held the academic position of Associate Professor at the Department of Physiology and Pathophysiology, Medical University of Varna.

Assoc. Prof. Dr. Velikova, Ph.D. has extensive administrative experience: she was Administrative Assistant of the Board of Physiology; Coordinator of the Public Health-Master Program, implemented by MU-Varna and Casa college, Cyprus; Course Leader of the 3rd Medical Course; Head of the Board of Physiology. Since 2018 Assoc. Prof. Dr. Velikova, PhD is the Head of the Department of Physiology and Pathophysiology, MU-Varna.

Assoc. Prof. Dr. Velikova, Ph.D. is a member of numerous professional organizations, including the Bulgarian Medical Association; Bulgarian Society of Physiological Sciences; Federation of European physiological societies (FEPS); Union of Scientists - Varna, Bulgaria; European Physiological Society (EPPS). Varna, etc. Assoc. Prof. Dr. Velikova, Ph.D. is a member of the Board of IMAB, Section "Medicine", a member of the Program Council of the Faculty of Medicine, Medical University Varna, of the Examination Committee for conducting colloquia for graduate students in physiology at Medical University Varna and of the State Examination Committee in physiology.

3. Teaching and expert activities

Assoc. Prof. Margarita Velikova, Ph. D., conducts practical exercises for students of the specialties "Medicine" and "Dental Medicine" in Bulgarian and English; "Pharmacy", "Nurse"; "Midwife"; "Rehabilitator"; conducts lecture courses on physiology for students of the specialties "Medicine" (English language training); "Dental Medicine" (in Bulgarian and English); "Pharmacy", "Nurse", "Midwife", as well as selected lectures on physiology for the training of trainee doctors; develops curricula for the training of students of specialties "Medicine" and "Pharmacy" in English; "Dental Medicine" - Bulgarian and English language training and for the preparation of doctoral students in the doctoral program "Human Physiology". Assoc. Prof. Margarita Velikova, Ph.D. is the author/co-author of 8 textbooks for medical, dental and pharmacy students.

Assoc. Dr. Margarita Velikova, Ph.D. has reviewed 4 scientific projects and 4 scientific articles 2 of which for the journal *Acta Neurobiologiae Experimentalis*, refereed in Scopus. She has been a member of the scientific jury in the procedures for the academic position of "Senior Assistant Professor" - 4; "Associate Professor" - 3; for obtaining the PhD degree - 1 and the PhD degree - 1. She has participated in a teaching mobility for the purpose of exchange of experience between programme countries under the Erasmus+ programme at the University of Messina, Italy,

The teaching and expert activities of Assoc. Prof. Margarita Velikova, Ph.D. are in the field of her professional training and scientific interests and show a wide range of activities.

4. Scientific production and scientific metrics

The scientific works with which Assoc. Prof. Margarita Velikova, Ph.D. participated in the competition for the academic position of "Professor" in the specialty "Physiology", professional field 4.3. Biological Sciences, in the field of higher education 4. Natural Sciences, Mathematics and Informatics, for the needs of the Department of Physiology and Pathophysiology, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, are presented in accordance with the minimum scientific and metric requirements for the academic position of "Professor" of the Law for the Development of the Academic Staff of the Republic of Bulgaria, the Regulations for its Application and the Regulations for the Development of the Academic Staff of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, respectively:

- Indicator A: Dissertation for the award of PhD, carrying the required 50 points;
- Indicator B4: Scientific publications equivalent to a habilitation thesis, published in refereed and indexed in world-known databases of scientific information - 10 publications evaluated at 174 of the required 100 points;
- Indicator G7: scientific publications in journals refereed and indexed in world-known databases of scientific information - 20 publications, 349 out of the required 200 points;
- Indicator D11: citations in Web of Science and Scopus - 232 points out of the required 100 points;
- Indicator E11-20: Assoc. Prof. Dr. Velikova, PhD is the supervisor of two successfully defended PhD students and participates in 3 scientific projects and in the preparation of 8 textbooks for students of medicine, dentistry and pharmacy, 2 of which in English - 159.66 points out of the required 150 points.

The data presented by Assoc. Prof. Dr. Velikova, Ph.D. far exceeds the minimum scientific-metric requirements for the academic position of "Professor", according to the Law on Research and Development, the Law on Research and Development, the PRAS of MU - Varna: out of the total required 600 points, the candidate presents scientific-metric indicators evaluated with 964.66 points. In the documents submitted for the competition for the academic position of "professor" Assoc. Velikova presents 55 participations in scientific forums, as well as 23 full-text publications in scientific journals and collections, beyond the minimum science-metric requirements for the position of AD "professor, which indicates a respectable scientific production. The total number of publications with which Assoc. Prof. Dr. Velikova, Ph.D. participated in the competition for the academic position of "Professor" is 53, 32 of them are published in journals, refereed and indexed in world-known databases of scientific information (Web of Science, Scopus). The IF of the journals in which the candidate has publications, according to the academic transcript, is 57.754. The citation index: h-index, Scopus is 8.

5. Evaluation of the main scientific and applied contributions

The main interests in the research work of Assoc. Prof. Dr. Velikova, Ph.D. are mainly in the field of neurophysiology. The studies related to the involvement of some neuropeptides and endocannabinoids in the regulation of brain processes and their role in the mechanisms of depressive state are grouped in 3 directions:

- I. Experimental neurophysiology studies on the involvement of the brain endocannabinoid system (ECS), renin-angiotensin system (RAS) and brain vasoactive integrin peptide (VIP) in the mechanisms of depression-like state induced by bilateral olfactory bulbectomy (OBH) of rats;
- II. Studies on the lateralization of behavioral responses of brain structures (hippocampus, amygdala) involved in the depressive-like state upon the introduction of neuropeptides (VIP, Ang II), their receptor antagonists and cannabinoid receptor ligands;
- III. Studies on the role of hippocampal renin-angiotensin system and brain endocannabinoid system in behavioral responses in rats.

The results of this research have been included in publications equivalent to a habilitation thesis. The main scientific contributions are: 1. Obtained original data on the role of the brain endocannabinoid system in anxiety-like state, learning and memory of rats with an experimental model of depression induced by bilateral olfactory bulbectomy. 2. First studies on the involvement of hippocampal neuropeptides Ang II, VIP and their receptors in behavioral responses in rats with bilateral olfactory bulbectomy. 3. New data on hemispheric asymmetry in behavioral responses of rats with depressive-like state after microinjection of Ang II, VIP and their receptor antagonists into CA1 field of hippocampus. 4. The effects of hippocampal AT1 receptor inhibition (uni- and/or bilaterally) on exploratory activity, anxiety-like state, learning, and memory of rats were investigated for the first time, and asymmetry in behavioral responses was demonstrated.

These studies contribute to uncovering the physiological role of neuropeptides, endocannabinoids and their receptors in the control of behavioral responses and provide new data to elucidate their potential involvement in the pathophysiological mechanisms of the depressive state. The results of this research have important implications for the overall understanding of the role of neuropeptides and the brain endocannabinoid system, both in normal brain function and in the development of neurological and psychiatric disease states. Neuropeptides and the endocannabinoid system also play an extremely important role in medical practice. Obtaining new data on the involvement of neuropeptides and the endocannabinoid system in the pathogenesis of depression, Alzheimer's disease, Parkinson's disease, affective and anxiety disorders would help in the diagnosis of these diseases and in the development of new therapeutic approaches for their treatment.

The fourth area of her research, conducted by Assoc. Prof. Velikova, Ph.D., includes studies of the influence of hypothalamic-pituitary-thyroid hormone (HHT) axis hormones on hemostasis and fibrinolysis in rats.

In this group of studies, it has been established that the hypothalamic-pituitary-thyroid axis is involved in the regulation of hemocoagulation in rats by modulating the activity of coagulation factors, by downregulating plasma levels of vitamin K-dependent coagulation factors, and that HSC axis hormones are involved in the regulation of fibrinolysis.

Vth scientific direction includes results of studies related to mental health assessment of medical students and reactivity of human organism to stress

These studies have important practical implications for identifying the factors essential for inducing academic stress and devising a strategy for preventing it.

The presented indicators characterizing the research activity of Assoc. Prof. Dr. Velikova, Ph.D. show that she is an established and recognizable scientist in scientific circles, with extensive experience in research work in the field of neurophysiology.

Conclusion

The official documents presented in the present competition for the scientific research and teaching activities of Assoc. Prof. Dr. Margarita Stefanova Velikova, Ph.D. fully satisfy and to a significant extent exceed the requirements for the academic position of "Professor" of the Academic Staff Development Act of the Republic of Bulgaria, the Regulations for its application and the Regulations for the Development of the Academic Staff of the Medical University "Prof. Dr. Paraskev Stoyanov"- Varna. The scientific production of Assoc. Prof. Dr. Velikova is up-to-date, original and valuable, with significant scientific and applied contributions, as evidenced by the publications in refereed and indexed scientific journals, as well as their citations. The teaching, organizational and administrative experience of Assoc. Prof. Margarita Velikova, Ph. All this gives me the grounds to express a positive opinion and to confidently recommend to the members of the esteemed Scientific Jury to elect Assoc. Prof. Dr. Margarita Stefanova Velikova, Ph.D. as "Professor" in the professional field 4.3. "Biological Sciences", scientific specialty "Physiology" for the needs of the Department of Physiology and Pathophysiology, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

26.04.2023 г.

Member of the Scientific Jury:



Assoc. Prof. Petya Markova, PhD