

REVIEW

by Professor PhD. Tsveteslava Veselinova Ignatova-Ivanova,

Dean, Faculty of Natural Sciences,
Shumen University "Ep. K. Preslavski"

By order P-109-131 of 22.02.2023 of the Rector of MU-Varna, I have been appointed as a
member of

The scientific jury on the procedure for academic position of professor of specialty
"Physiology" with candidate associate professor Dr. Margarita Stefanova Velikova, d.m.
According to the decision of the preliminary meeting of the scientific committee, held online and
on the basis of an Order of the Rector of MU-Varna, I was designated as a reviewer of
procedure for the academic position.

Brief biographical data of the candidate:

Associate Professor Dr. Margarita Stefanova Velikova was born on 06.05.1963 in the city of Varna. She graduated in medicine at the Medical University of Varna in 1988 in the specialty Medicine.

From 2006 to 2009, she was a doctoral student of independent training at the Department of Physiology and pathophysiology" at the Medical University - Varna. In 2010, she acquired a Doctor degree at the National Academy of Sciences with code 01.06.17 "Physiology of animals and man" at HAC. From 1991-1996 she was appointed as an assistant in Physiology in Dept. Physiology at MU-Varna. From 1996 to 1999, she was a chief assistant, and from 1999 to 2012 she was the chief assistant in the same department. In 2012, she acquired the scientific title of associate professor in the specialty of "Physiology" in the department of "Physiology and Pathophysiology" in MU - Varna, where she works to the present day. Assoc. Prof. Margarita Stefanova Velikova owns the qualification – Doctor. She is active in teaching and was the scientific mentor of 3 successfully defended doctoral students. I personally had the pleasure to

participate as a member of a scientific jury for the defense of one of the dissertations to make sure of the qualities and excellent scientific work not only of the doctoral student, but also of the scientific mentor.

The analysis of the materials provided to me for review:

The Scientific Jury materials provided to me for review include:

- abstract,
- biographical and professional data for the candidate,
- administrative documents from the Department of Physiology and Pathophysiology, as well as from

The Rector of Varna Medical University,

- academic reference for publications and citations,
- habilitation extended reference for scientific contributions,
- summaries of scientific works,
- report on the contributing moments,
- list of participations in scientific forums,
- certificates for participation in scientific projects,
- summarized data on the scientific, teaching, administrative and expert activities,
- as well as the relevant protocols.

Analysis of scientific production

For participation in the competition for AD "Professor" Assoc. Dr. Margarita Stefanova Velikova presents:

53 scientific publications, of which 32 journal publications referenced in Web of Science and/or Scopus and 21 articles published in peer-reviewed journals.

The extended habilitation report is a summary of the research and achievements related to the 10 articles (B4.1-10) included as "equivalent number" of habilitation thesis in indicator B4 from the minimum scientometric requirements (PRAS of MU-Varna):

1 journal article in Q1;

4 articles in Q2;

3 articles in Q3;

2 articles Q4

The total impact factor of the journals in which the articles were published is 12.068.

The publications present the studies of a research team in which Assoc. Prof. Velikova is a major participant in the field of neurophysiology related to the participation of some neuropeptides and endocannabinoids in the regulation of brain processes and their role in the mechanisms of the depressive state. Articles are related to basic science directions of the research work of Assoc. Prof. M. Velikova as following:

- ✓ *Studies in the field of experimental neurophysiology on the participation of the brain endocannabinoid system (ECS), renin-angiotensin system (RAS) and brain vasoactive intestinal peptide (VIP) in the mechanisms of depressive-the similar condition induced by bilateral olfactory bulbectomy (BOL) of rats.*
- ✓ *Studies of the lateralization of behavioral responses to brain structures (hippocampus, amygdala) involved in the depressive-like state at induction of neuropeptides (VIP, Ang II), antagonists of their receptors and cannabinoids receptor ligands.*
- ✓ *Studies of the role of the hippocampal renin-angiotensin system and the brain endocannabinoid system in behavioral responses in rats.*

According to indicator D, the candidate presents 20 publications which are referenced in the Web of Science and/or Scopus. Separately, beyond the minimum scientometric indicators are presented and 23 peer-reviewed publications.

Assoc. Prof. Dr. Margarita Velikova is the author of 8 teaching aids, including:

- ✓ -Laboratory manual in Physiology, published by SU "St. Kl. Ohridski" - sole author;
 - Situational tasks in physiology, co-authored with MU Varna publishing house;
 - Practical Exercises in Physiology for Pharmacy Students, with MU publishing house Varna in co-authorship;
 - Manual for practical exercises in animal and human physiology, MU Varna publishing house in co-authorship;

- Practical Exercises in Physiology for Medical Students, with MU publishing house Varna in co-authorship;
- Physiology - laboratory practicum, with MU Varna publishing house in co-authorship;
- Practical exercises in physiology for students of dental medicine, MU Varna publishing house in co-authorship;
- Physiology - sample exam questions, co-authored with MU Varna publishing house;

Assoc. Prof. Dr. Margarita Velikova's participation in scientific forums can be grouped as follows:

- in international forums – 11
- in national forums with international participation - 21
- in national forums – 23

The analysis of the scientometric indicators gives me reason to give my opinion with complete conviction positive assessment of the research work of Prof. Velikova. bearing in mind that she is a doctor and a university professor commands respect for the time and effort she has put in distinguished in the qualitative scientific work. Admirations!

Contributions

The main points of contribution from the scientific publications and topics on which Assoc. Prof. Dr Margarita Velikova can be grouped as follows:

1. The role of brain cannabinoid CB1 receptors in the mechanisms of anxiety state, pain sensitivity, motor activity, learning and memory in depression-like (OBX) rats.
2. Contributions related to the provision of new information on the involvement of the hippocampal renin-angiotensin system (angiotensin II (Ang II), and angiotensin AT1 receptors) in motor activity, state of anxiety, learning and memory in depressive-like state (OBX).
3. The data on the modulating action of neuropeptides are of a contributing nature, introduced into some brain structures, on motor activity, condition of anxiety, learning and memory processes in depressive-like condition.

4. Contributions related to studies of the lateralization of behavioral responses to brain structures (hippocampus, amygdala) involved in depressive-like condition, when introducing neuropeptides (VIP, Ang II), antagonists of their receptors and cannabinoid receptor ligands.
5. Research related to modulating the activity of hippocampal RAS and brain ECS and established effects on behavioral reactions in rats.
6. Contributions related to the study of the effects of hormones on the hypothalamic-pituitary-thyroid (HCT) hormone axis on hemostasis and fibrinolysis in rats.
7. Contributions related to assessment of mental health of medical students (surveys studies) and the reactivity of the human organism to stress.

Conclusion: Based on the materials provided to me to prepare a review on the application of Assoc. Prof. Dr. Margarita Stefanova Velikova, MD, for taking the academic position position of professor in the specialty "Physiology", I provide a positive statement with complete conviction evaluation of her selection for the academic position of professor. I allow myself to appeal to the respected members of the Scientific Jury to vote with theirs positive vote for the awarding of Margarita Stefanova Velikova, MD, Ph.D the academic position of professor, as I will do. I wish you many future scientific achievements and successes on the path of a successful doctor and scientist Prof. Velikova!

2.04.2023

Shumen

Prof. Dr. Tsveteslava Ignatova-Ivanova