

To the Chairman of **Scientific Jury**,  
**Associate Professor dr. STOYAN PAVLOV, MD, PhD**,  
Chief of the Department „Anatomy and cell biology”,  
Determined by Order № P-109-224/26.07.2024  
of the Rector at MU - Varna „Professor Paraskev Stoyanov”  
„Marin Drinov“ Str. 55, 9002 - Varna

On the reason of Your Report with entry № 102-1700/17.06.2024 and a decision based on protocol № 24/08.07.2024 of the Faculty Council of the FM at MU - Varna based on art. 4, paragraph 1 and paragraph 2 of the actual Law on Development of the Academic Staff in Republic of Bulgaria, art.57, par.1 and par. 2 of the Regulations for application of LDASRB and art. 6, par. 1 and par. 2 of the present Rules of Development of the Academic Staff of MU - Varna, I have been elected as an **internal member of Scientific Jury** in a procedure for occupying the academic position „**Associate Professor**”, while according to prot. № 1/08.08.2024 of the first meeting of the Scientific Jury I have been appointed to prepare a **REVIEW** regarding the participation of **dr. MEGLENA VALDEMAROVA ANGELOVA, DM, PhD**, chief assistant professor at the Department „Anatomy and cell biology” of MU-Varna in a competition, announced in State Gazette № 45/28.05.2024 for occupying the academic position „**Associate Professor**” in scientific specialty „Anatomy, histology and citology”, professional direction 7.1. "Medicine" in higher education field 7. Health and sport at the Department „Anatomy and cell biology” of MU - Varna.

Included REVIEW

by **Professor VANYA GORANOVA STEFOVSKA, MD, PhD**

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**I. General description of the materials presented in the competition**

**Dr. Meglena Valdemarova Angelova, DM, PhD** is participating in the competition and has presented all necessary documents according to the requirements of LDASRB and the Rules of the Conditions and Order of MU - Varna for occupying Academic positions:

1. Application to the Rector for admission to participation in the competition.

2. Original autobiography with candidate signature.
3. Certified copy for authenticity of **EQD of Master of science in Medicine** diploma with a supplement.
4. Certified copy for authenticity of **ESD „Doctor”** diploma.
5. Certified copy for authenticity of a specialty acquired in the Healthcare field.
6. Certificate of specialty practice length.
7. Certificate of teaching practice length.
8. Teaching-load reference.
9. Medical certificate.
10. Conviction certificate.
11. Notice for personal data protection.
12. Declaration for authenticity of the documents presented, filled in and signed by the candidate.
13. Academic reference, issued by MU – Varna library, including:
  - Publications and citations, covering the minimal national requirements;
  - Full-text publications and citations except for the minimal scientometric requirements;
  - List of scientific works and citations, used for acquiring **ESD „Doctor”** and occupying **AP „Chief assistant Professor“**;
  - Application for active profiles in Google Scholar, ORCID etc.;
  - Application for Impact Factor (if present).
14. Monograph/habilitation work.
15. Declaration of author consent – only when applied with a *monograph*.
16. Abstracts of the monograph/habilitation work in Bulgarian and English language, each no less in volume of 10 standard typewritten pages (word).
17. Abstracts of the scientific works in Bulgarian and English language.
18. Reference of the original scientific contributions, signed by the author.
19. Reference of participations in national and international scientific meetings.

While considering the documentation of **dr. Angelova**, I have established a correspondence to administrative requirements for **AP „Associate Professor“**, i.e., she has the **specialty in „Anatomy, histology and cytology”** with the necessary teaching practice length and possesses the **ESD „Doctor”**. She is clinically healthy and unconvinced. She has received a notice for personal data protection from MU – Varna and presented declaration for authenticity of the documents with author consent.

## **II. Brief biographic data and professional development of the candidate**

Dr. Angelova was born on April 21, 1979 in Varna, she is married, has a son and a daughter.

In 2003 she graduated the specialty of „Medicine" with the EQD of „Master of science in Medicine" and professional qualification „Physician" from MU - Varna (diploma reg. № 7442/29.08.2003).

Since 1 January, 2010 she has acquired a specialty in „Anatomy, histology and cytology" (certificate reg. № 015126/20.01.2010).

In the period 2014-2015 she was enrolled as a PhD student in a self-dependent training at the department of „Anatomy, histology and embryology" of MU - Varna on the topic of dissertation „*Analysis of progenitor cells during the development of human palium*“, which she has successfully defended on September 12, 2015.

From 2003 to 2006 she has worked as a physician in the EMC – Shumen, affiliate Novi Pazar. From 2006 to 2009 she is an assistant professor in the department of „Anatomy, histology and embryology" of MU - Varna, from 2010 to 2011 is a „Senior assistant professor“, since 2011 to now is a „Chief assistant professor“. Since 2021 she is administrative assistant. To the moment of the reference (June 13, 2024) dr. Angelova has 20 years 8 months and 27 days of work practice, of which 2 years 9 months and 24 days as a physician, while during the other 18 years she is a university teacher at MU – Varna.

Dr. Angelova is proficient in English language. She possesses excellent computer skills and high microscopic competence. She has very good communicative and leader abilities. She has not indicated membership in scientific and professional organizations.

## **III. Assessment of candidate scientific works for the whole academic development**

### **1. General characteristic of the scientific production and publication activity**

The list of publications submitted by dr. Angelova is including **28** scientific works.

- Dissertation work - 1 issue;
- Monograph - 1 issue;
- Full-text papers - 25 issues, 6 issues are for ESD „Doctor" and AP „Chief assistant professor", while 19 issues participate in the competition for AP „Associate Professor“, of them:
  - Publications in scientific editions refereed and indexed in international data bases with scientific information - 8 issues;
  - Publications in nonrefereed journals with scientific reference - 11 issues

One publication is presented outside the evidence material for fulfillment of the minimal requirements of occupying AP „Associate Professor“. From **21** issues participating in the reference for minimal requirements of occupying AP „Associate Professor" in 2 of them

(dissertation work and monograph) she is single author, in 3 papers she is first author, in other 6 is second author and in the 10 remaining is third and subsequent author.

**Table 1.** Comparison of the minimal number of points by group of indicators according to the RDAS of MU – Varna for AP „Associate Professor“ and those of the candidate.

Group of indicators	№	Indicators of candidate participation	Minimal number of points	Candidate points
A (A)	1.	Dissertation work for acquisition of ESD „Doctor” – 1 issue, 2014, 130 pages, MU - Varna	50	<b>50</b>
B (B)	3.	Habilitation work/monograph – 1 issue, 2024, 147 pages, MU - Varna	100	<b>100</b>
C (Г)	7.	Publications and reports in scientific editions refereed and indexed in international data bases with scientific information – 8 issues	200	<b>209.74</b>
	8.	Publications and reports in nonrefereed journals with scientific reference or published in refereed joint volumes - 11 issues		
D (Д)	10.	Citations or references in scientific editions, refereed and indexed in international data bases with scientific information or monographs and joint volumes - 4 issues.	50	<b>60</b>
Sum			400	<b>419.74</b>

As a whole, except for the dissertation work dr. Angelova has published 1 monograph, 1 teaching material with tests for the specialty „Nurse” of 80 pages (additional **15** points), 25 articles with total volume of 125 pages and 18 reports with total volume of 40 pages. In the competition she participates with a total of **434.74 p. (419.74 p. + 15p.)**, while the minimal number is **400 p.**

## 2. Scientific topics and achievements of the candidate’s works

Scientific investigations and achievements of dr. Angelova’s works could be distributed in several fields:

1/ Neuroanatomy and neurogenesis – 5 issues (A1; Г7.1; Г8.4; Г8.5; Г8.6; Г8.7; 5 issues outside)

The author’s studies in the CNS neurogenesis field are directed to the mechanisms of formation of new functionally active neurons from neuronal stem cells in the human brain during

the embryonic period. Contributive are the investigations of specific zones of human embryonic and fetal dorsal pallium. For the first time expression of TF Zbtb20 in the ventricular, external and internal subventricular zones of the lateral ventricle of human fetal dorsal pallium are described. Original are the results on the phenotype of Zbtb20+ cells, which are mainly radial glial stem cells. Contributive are the data about pallium germinal zones containing Sox2+/Pax6- and Sox2-/Pax6+ cells, which differ from the majority of Sox2+/Pax6+ cells, as well as the data regarding the presence of rostral-caudal gradient in the density of radial glial stem cells expressing Sox2/Zbtb20.

By ethical reasons primates at various ages are used for studying of postnatal neurogenesis in intact spinal cord by normal conditions and after ischemia. For the first time a high percentage of proliferating cells, expressing a phenotype of glial and neural progenitors, is established. The results on the presence of newly generated cells in the gray matter are original with a contributing character. Such are also the results on proliferative stem-cellular niche in the zone of central canal and the higher density of newly generated cells in the cervical segments by experimental animals of all age groups.

Original are the research data on proliferative processes in the post-ischemic cerebellar cortex of Japanese monkeys at various ages. A contributing character have the detailed analysis of the phenotype, number, distribution and dynamics of new generated cells in the layers of cerebellar cortex after ischemia that demonstrate prevailing amount of microglia, astroglia, as well as single new neurons accompanied in parallel with degeneration of Purkinje cells. Original are also the data regarding specific location and expression of transcriptional factors Pax2 and Pax6 in different layers of the cerebellar cortex in terms of age and after global brain ischemia.

### 2/ Anatomical variations – 6 issues (Г7.2; Г7.3; Г7.5; Г7.7; Г8.8; Г8.10; 1 issue outside)

Variations are defined as a deviation of anatomical norm, that might be conductive factors to some medical conditions. They play an important clinical role in specific disease manifestations, imaging diagnostics and treatment, especially the surgical one.

Contributive are the reported a very rare variation of a cross m. sternalis, a case of a multiple tendinous m. abductor pollicis longus, a variation of m. rectus superior and variations of important arterial vessels. The knowledge of these variations is of interest for specific diagnostic and surgical interventions.

### 3/ Cytology and reproductive health - 4 issues (Г8.1; Г8.2; Г8.3; Г8.9)

During the last years the interest in man reproductive health has significantly increased. This has resulted in defining new standards for human seminal fluid. The publications submitted included present investigations of fertile men in Bulgaria. A contributing character have the data regarding parameters of sperm normal morphology, their motility and the presence of leukocytes

in the seminal fluid of the men examined. In most of the cases sperm motility and morphology are outside reference limits.

#### 4/ Anatomical features of the human foot – 4 issues (B3; Γ7.4; Γ7.6; Γ7.8; Γ8.11)

Anatomical variations the human foot show significant ethnic and regional features and represent predisposing factors for a range of medical conditions. The reported results have focused on the foot anatomical features and parameters demonstrating foot types with a very high frequency among the Bulgarian population. Contributing are the studies of a series of morphological foot indexes, relationships examined between them, as well as their connection with body constitution. For the first time such a large scale study of plantograms' typing of Bulgarian citizens at age 18 to 60 years is conducted. Original are the substantial studies of talus and calcaneus articular surface variations and their frequency in bone collection of the Department „Anatomy and cell biology” at MU – Varna. It was demonstrated a high frequency of variants with fused articular surfaces that have a direct significance for the stability and mechanics of the subtalar joint. These scientific-practical investigations have definitely a significant meaning for the work of many specialists.

#### 3. Assessment of the monographic paper submitted

The monographic paper of dr. Angelova „*Anatomical features of the human foot*” is an original, thorough and summarizing investigation on an intriguing topic with still unclear aspects. As a terminal part of the lower limb, human foot transfers and distributes body weight on different underlying surfaces during standing, walking and running. It is a complex flexible-rigid structure made up of many specific bones, joints and ligaments. Except for this passive part including as well as fat and connective tissues, blood vessels, peripheral nerves, the musculature of the leg and foot itself plays a significant role.

The goal is to introduce scientific community to the actual information on the topic and to add new original author's data on the Bulgarian population.

In the monograph essential aspects of the specific morphological components and biomechanical parameters in respect to foot typing are discussed. Its structural and functional characteristics, mutual dependencies and variations are systemically and comprehensively underlined. Characteristic foot types using the most suitable contemporary methods – anthropometric, visual, radiographic, plantograms and pedography are investigated. These are precisely anatomically presented, functionally analyzed and genetically defined. Foot types are described with regard to their concrete predisposition and involvement in specific medical states.

A contributing character have the comparative-anatomical, ethnic, sexual and regional features of the human foot described among local population in normal conditions. The own

studies of Bulgarian citizens categorically contribute to enlargement of the knowledge related to specific foot types morphology and distribution.

It could be summarized that the monograph of dr. Angelova is an extremely interesting and detailed scientific research with important theoretical-applied character in fields like sport, traumatology, orthopedics, physiotherapy and other specialties.

#### 4. Citations of candidate's publications in national and international literature (publication image)

According to the applied academic reference, issued by MU – Varna library, two publication of dr. Angelova in scientific editions refereed and indexed are cited in foreign data bases a total 4 times.

#### 5. Participation in scientific meetings

Dr. Angelova has presented the obtained results at 19 national and international scientific forums. She has participated at 11 Congresses of BAS with international participation, 3 International Symposia of CA, 1 Jubilee Symposium „50 Years Department „Anatomy, histology and embryology” at MU - Varna“, 2 National Conferences „Morphologic days“ with international participation, 1 Scientific-practical Conference of Aquatic Rescue and 1 Course of Anatomical Surgery.

She has taken part in a scientific project „*Expression of some transcriptional factors in progenitor cells during the development of human palium*“ as a chief researcher.

### **IV. Complex, qualitative evaluation of candidate's pedagogical, methodical and teaching activity**

Dr. Angelova has performed all practical exercises in anatomy and histology for I<sup>st</sup> и II<sup>nd</sup> course medical and dental medicine students of the Bulgarian and English programme at MU - Varna. She has conducted lecture course and seminars of „Human Anatomy“ for nurses in MU – Varna and the affiliates in Sliven, V. Tarnovo and Shumen, practical seminars in „Human Anatomy“ for pharmacy students, lecture course and exercises for students of specialty „Dental technician“. She has participated in the examination sessions of the respective disciplines.

According to the reference of the teaching workload, it becomes clear that during the last 5 academic years dr. Angelova has an average auditorium occupancy of 555 teaching hours per year (201 are in the English programme). This considerably exceeds the norm of 360 teaching hours.

### **V. General evaluation of candidate's compliance to the mandatory conditions, quantitative criteria and scientometric indicators**

After a detailed consideration of the provided documentation and having done a complex assessment of the compliance with the administrative requirements, scientific-research work and pedagogical-teaching activity of **dr. Angelova**, I think that she meets even exceeds the minimal mandatory requirements of all criteria for occupying **AP „Associate Professor"** in scientific specialty „Anatomy, histology and citology”.

**VI. Conclusion (the candidate corresponds/does not corresponds to the mandatory specific conditions and quantitative scientometric criteria for AP „Associate Professor") and proposal for occupying the position**

Dr. Angelova is a built and competent university teacher with a long-standing experience in her specialty and high scientometric indicators. She is a well prepared researcher with a wide range scientific interests and has a very good image among her colleagues and students.

As a **member of the Scientific Jury**, I consider the candidate’s achievements in quantitative and qualitative aspect to fully correspond to the minimal and mandatory conditions according the LDASRB and the Rules of MU – Varna for occupying academic position „**Associate Professor"**". I give my fully convinced positive vote appealing to the other members of the esteemed Scientific Jury also to support the election of **Dr. Meglena Valdemarova Angelova, DM, PhD** in the present competition and propose her to the FC of MU - Varna for appointment and occupying the AP „**Associate Professor"** in scientific specialty „Anatomy, histology and citology”, professional direction 7.1. "Medicine" of higher education field 7. Health and sport at the Department „Anatomy and cell biology” of MU - Varna.

Заличено на основание чл. 5,  
§1, б. „В“ от Регламент (ЕС)  
2016/679

28.08.2024

Varna

Signature: .....

(**Prof. Vanya Goranova Stefovskа, MD, PhD**)