

**TO**

**THE CHAIRMAN OF THE SCIENTIFIC JURY,**

**APPOINTED BY ORDER № 1720 / 10.07.2020**

**OF THE RECTOR OF TRAKIA UNIVERSITY - STARA ZAGORA**



**REVIEW**

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**Re:** A competition for the academic position "Associate Professor" in the scientific specialty "Morphology", announced for the needs of the Department of Anatomy of the Medical Faculty at Trakia University-Stara Zagora (announced in SG, issue 42 of 12.05.2020), by Order № 1720 / 10.07.2020 of the Rector of the Thracian University.

**Candidate for the announced competition**

One candidate - Dimitrinka Yordanova Atanassova-Dimitrova, PhD, Associate Professor of Animal and Human Physiology at the Institute of Neurobiology, BAS and biologist at IEMPAM, BAS has applied for participation in the competition.

The complete set of administrative documents is presented in accordance with the requirements of the Law for the Development of the Academic Staff in Republic of Bulgaria and the Regulations for holding the academic position "Associate Professor" of the By-laws of the Trakia University-Stara Zagora.

**I. Analysis of the candidate's career profile**

**1. Education and qualification**

The candidate Dimitrinka Atanassova-Dimitrova graduated from the Faculty of Biology at Sofia University "St. Kliment Ohridski" in 2000, obtaining a master degree in biology. In 2015 she was awarded "Doctor of Biology" degree in the doctoral program "Morphology" at IEMPAM-BAS.

**2. Work experience and specialization**

Assistant professor Dimitrova has 11 years of work experience in the specialty. Over the years she has held the following positions: from 2000 to 2005 she was an advertising consultant at Assiko, from 2005 to 2009 worked as a computer operator at Sunny Computers.

In 2009 she started working as a researcher at the Institute of Neurobiology of the Bulgarian Academy of Sciences. From 2010 to 2016 she was an assistant, from 2016 to 2018 senior researcher, and from 2018 associate professor at the Institute of Neurobiology of the Bulgarian Academy of Sciences. Since 2017 she has been appointed as biologist at IEMPAM-BAS.

From 2013 to 2017 she worked as a part-time assistant in the Department of Anatomy, Histology and Pathology at the Medical Faculty of Sofia University "St. Kliment Ohridski". From 2016 to 2020s he worked as an assistant professor in the Department of Anatomy at the Medical Faculty of the Trakia University - Stara Zagora.

She has completed specializations related to her professional and scientific development at the Department of Genes and Behavior, Max Planck Institute for Biophysical Chemistry (01.08.2017-31.08.2017) in the field of Primate brain. Stem cells, Neurogenesis, Immunofluorescence, Cell culture, Subventricular zone of primate brain; Institute of Anatomy, University Medical Center Rostock, Rostock University (01.01.2019 –31.03.2019), with a DAAD scholarship for a research project on Morphological diversity of astrocytes in an experimental multiple sclerosis animal model.

### **3. Workload and teaching activity**

The presented report shows that assistant professor Dimitrova has led full courses of practical training in the disciplines of "Human Anatomy" and "Cytology, General Histology and Embryology" for medical students in Bulgarian and English. She has taught as a full-time assistant professor at the Department of Anatomy at the Trakia University (from 2016 to 2019) and as a part-time assistant professor at the Department of Anatomy, Histology and Pathology at the Medical Faculty of Sofia University "St. Kliment Ohridski" (from 2013 to 2017).

Her classroom workload as a full-time lecturer at the Department of Anatomy of the Medical Faculty of Trakia University-Stara Zagora (105 hours per year) corresponds to the one determined by the University regulations. As a part-time assistant professor at the Department of Anatomy, Histology and Pathology at the Medical Faculty of Sofia University "St. Kliment Ohridski" she has led practical classes in anatomy and cytology, general histology and embryology (210 hours of annual workload). All this combined with good scientific activity is an indication of an organized lecturer and researcher.

## **II. General description of the submitted materials in the competition.**

I have no critical remarks on the merits of the materials presented in the competition. The documentation is complete and accurate, presented in a logical sequence according to the requirements of the competition.

## **III. Evaluation of the candidate's scientific works for the overall academic development.**

### **1. General characteristics of the scientific production and publishing activity.**

The candidate presents a total of 71 scientific publications in its entire development, which include publications in international journals (37 pieces), publications in journals with impact factor (33 pieces), publications in Bulgarian journals (34 pieces).

In the competition for associate professor D. Dimitrova presents with 34 scientific publications from the period 2001 - 2019, which include publications in international journals (23 pieces), publications in journals with impact factor (19 + 1 (SGR)), publications in Bulgarian journals (11 pieces).

Assistant Dimitrova presents for the competition 98 participations in scientific forums, of which 13 at international congresses and conferences and 85 in Bulgaria. In 8 of her participations abroad and in 13 in Bulgaria she is a leading author.

## 2. Participation in implementation and project management

Assistant Dimitrova has participated in 15 research projects, of which 2 funded by the European Union, 3 by the Fund for Scientific Research, 1 EBRD project, 9 University projects.

## 3. Scientific and creative achievements (membership in organizations, editorial boards, juries, awards)

Assistant Dimitrova is a member of the Bulgarian Anatomical Society, the Union of Scientists in Bulgaria.

At XXIV Congress of the Bulgarian Anatomical Society (May 31, 2019, Stara Zagora) she was awarded with the prize "Corresponding Member Dimitar Kadanov" for achievements in the field of morphology.

Awards for contribution to the publishing activity of the Trakia University - Stara Zagora for 2017, 2018 and 2019.

## **IV. Evaluation of the publications submitted for participation in the competition.**

The most important scientific areas of research in connection with publications and participation in scientific forums are on factors influencing epileptogenesis, the structure of the carotid body and its immunohistochemical characteristics, changes in mesencephalic neurons in peripheral neuronal damage and the specific response of the neurons of autonomic centers in the brainstem to acute abdominal pain.

1. Chronic infusion of Angiotensin II was shown for the first time to aggravate epileptogenesis by shortening the latency of spontaneous epileptic seizures and increasing their frequency in normotensive rats, but at the same time providing neuroprotection in the CA1 field of the dorsal hippocampus (№ 27,33, 52).

2. The effects of chronic injection of agomelatine on kainate (CA) - induced epileptogenesis and behavioral changes were studied for the first time. Agomelatine caused aggravation of epileptogenesis established by shortening the latent period of spontaneous seizure activity. Although agomelatine enhances susceptibility in the CA model to temporal epilepsy, it can positively influence depressive behavior (№40).

3. The normal structure of the carotid body in rats and its immunohistochemical characteristics were studied. High levels of nNOS were found in chemoreceptor glomus cells in the carotid body in rats. Visualization of the localization and distribution of calcitonin gene-linked peptide

(CGRP) and vasoactive intestinal peptide (VIP) in the rat carotid body using immunohistochemical methods. (№42)

4. A first attempt was made to visualize with light microscopy the presence of the enzyme tripeptidyl peptidase I (TPP I) in the glomeruli of the carotid body (CB) (publications 41,42). The enzyme was expressed, albeit to varying degrees, in both neuron-like glomus cells and glia like supporting cells.

5. Reactive changes in the mesencephalic trigeminal neurons as a result of peripheral nerve damage, presenting with significant structural changes in the perikaryon and peripheral growths, aimed at survival and neuronal regeneration in the changed environment, were studied. (№36).

6. The main morphological changes in biologically active points after experimental acupuncture in rats were studied. Acupuncture causes a cascade of tissue reactions along the acupuncture canal that lead to degranulation of neighboring mast cells (№ 23, 24, 29, 30, 47, 58).

7. For the first time, the presence of a second hatcher is registered in the Alpine Swift *Apus melba* during a 2-year study of the Alpine Swift colony in Sofia, Bulgaria. The appearance of a second hatchery at the Alpine *Apus melba* in Sofia provides strong indirect evidence that bird feeding conditions are more favorable in Sofia than in Solothurn, Switzerland. (№ 1,2)

**Summary:** The candidate has the necessary training and skills to conduct quality research. This is manifested in scientific production realized at a high theoretical and methodological level with notable contributions - original and confirmatory.

#### **V. Citations of the candidate's publications in the national and foreign literature.**

Out of a total of 34 publications, 19 have been published in journals with IF, including: *Acta Ornithologica*, *Ardea*, *Brain Research*, *Pharmacology, Biochemistry and Behavior*, *Cellular and Molecular Neurobiology*, *Behavioral Brain Research*, *Romanian Journal Morphology and Embryology*, *Comptes Rendus de l'Academie Bulgare des Sciences*, *Epilepsy & Behavior*, *Life Sciences*.

The total impact factor from the publications is 31,374 and the individual 5,199. Reference is also provided for 1 publication with SJR (0.167) in the *Bulgarian Journal of Veterinary Medicine*.

At the time of submitting the documents for the competition the candidate has submitted a reference for 45 citations (with total impact factor of the citing articles IF = 189.758) of scientific papers, all in international scientific journals.

#### **VI. Complex qualitative assessment of the educational and teaching activity, including scientific supervision of students, doctoral students, postgraduates.**

Assistant professor Dimitrova has established herself over the years as an erudite scientist with the necessary pedagogical skills for quality teaching.

Given the academic commitment and valuable scientific output of Assistant professor Dimitrova, which are a guarantee for a modern and quality learning process, I have no reason

to doubt the high level of teaching in the disciplines "Human Anatomy" and "Cytology, General Histology and Embryology".

**VII. Critical remarks and recommendations.**

I have no critical remarks on the merits of the materials presented in the competition. The scientific papers with which the candidate participates in the competition are written clearly, in a good scientific style and correct language. I would recommend in my future research activity Assistant Dimitrova to continue to deepen the development of scientific bases in the studied areas.

**VIII. General assessment of the candidate's compliance** with the mandatory conditions and the mandatory quantitative criteria and scientific indicators according to the Law for development of the academic staff in the Republic of Bulgaria, the Regulations for application of this law, Regulations for holding academic positions at the Thracian University-Stara Zagora.

Assistant professor D. Atanassova-Dimitrova meets the general conditions for completed higher medical education, acquired PhD degree in the scientific specialty "Morphology", as well as the mandatory quantitative scientific criteria required for taking the academic position "Associate Professor".

**Table of mandatory quantitative scientific criteria**

Group of variables	Content	Scores according to the rules at Medical Faculty of Trakia University	Candidate scores
A	PhD thesis	50	50
B	Doctor of science thesis	---	---
C	Habilitation work - monograph, or scientific publications in publications that are referenced and indexed in world famous databases with scientific information (Web of Science and Scopus)	100	135
D	Publications in the competition for associate professor (excluding those for PhD degree)	200	285
E	Citations only of the publications in the competition for associate professor	50	90

### **IX. Conclusion.**

According to his overall performance in the competition, I consider that assistant professor D. Atanassova-Dimitrova is undoubtedly a respected researcher with valuable scientific output, high qualification and extensive experience and independence and meets the mandatory and specific conditions and criteria for academic position "Associate Professor".

### **X. Recommendation for taking the position.**

Based on the above and taking into account the Law for development of the academic staff in the Republic of Bulgaria, the Regulations for implementation of the Law and the Regulations for development of the academic staff of Trakia University-Stara Zagora, I recommend the esteemed Scientific Jury to nominate assistant professor Dimitrinka Atanasova-Dimitrova of the academic position "Associate Professor" in scientific specialty "Morphology" for the needs of the Department of Anatomy at Medical Faculty, Trakia University-Stara Zagora.

Prepared by



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August 10, 2020

Plovdiv