

## **STATEMENT**

by Prof. Ivo Grabchev

Sofia University "St. Kliment Ohridski ", Faculty of Medicine  
member of a scientific jury in a competition for the academic position of "associate professor" in a professional field 4.3. Biological Sciences (Biochemistry)

The competition for associate professor in a professional field 4.3. Biological Sciences (Biochemistry) has been announced in SG, issue 63 of 30.07.2021 and no. 65 of 06.08.2021 for the needs of the Department of Chemistry and Biochemistry, Physiology and Pathophysiology at the Medical Faculty of Sofia University "St. Kliment Ohridski ". The only candidate in it is Ch. Assistant Professor Dr. Asya Tsanova. The documents and scientific achievements submitted for participation in the competition fully meet the requirements of Regulations for the Implementation of the Act for the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), Regulations for the Development of the Academic Staff of the Sofia University

### **General presentation of the procedure and the candidate**

Ch. Assistant Professor Dr. Asya Tsanova has graduated in 2003 from Sofia University "St. Kliment Ohridski ", Faculty of Biology with a bachelor's degree in Molecular Biology and a Master's degree in Molecular Biology, specialty " Plant Physiology "in 2005. In 2014 she has obtained a dissertation for the educational and scientific degree of Doctor in 4.3. Biological Sciences, Molecular Biology on the topic: "Properties and mechanisms of action of neuropeptides with model membranes in view of their application in pharmacology" with supervisor Prof. Zdravko Lalchev. The dissertation was prepared in the Department of Biochemistry at the Faculty of Biology at Sofia University "St. Kliment Ohridski "

During the period 2004-2005 she was a specialist biologist at the Faculty of Biology of Sofia University "St. Kliment Ohridski", and in 2006-2007 she worked at "Tchaikapharma AD" Sofia as a biologist. In 2007, after winning a competition, she was appointed an assistant, and since 2015 he has been a senior assistant in the Department of Chemistry and Biochemistry, Physiology and Pathophysiology at the Faculty of medicine at the Sofia University "St. Kliment Ohridski ».

Dr. Asya Tsanova is a co-author of 55 scientific papers, 24 of which are in journals with impact factor / impact rank, which are cited 34 times (Scopus and WoS database, without auto-citations) and her h-index is: 4 (according to Scopus) and 5 (Web of Science) She has participated in 81 poster and oral presentations at scientific conferences and has been a member of the working groups of 18 scientific or educational projects.

### **Evaluation of research activity**

In the present competition, Dr. Tsanova participated with 21 scientific papers, referred to in Scopus and WoS, which do not repeat those for obtaining the educational and scientific degree "Doctor" as 3 of them are in quartile Q1, 5 - in Q2, 5 - Q3, 6 - Q4 and two is in a magazine without quartiles. In addition to these publications, 20 scientific articles published in non-peer-reviewed journals, yearbooks or proceedings of scientific conferences were presented. A list of participations in 73 scientific forums in the country and abroad is also presented. This shows that the results obtained from the scientific activity of Dr. Tsanova have found good distribution in various forms.

According to the requirements of ZRASRB, PPZRASRB, the Regulations of Sofia University and the Regulations for acquiring scientific degrees and for holding academic positions "associate professor" the minimum required total number of points of the indicators in groups AE according to the requirements is 400 points. Assistant Professor Dr. Asya Tsanova participated with 432 points, which exceeds the required 400 points.

Since 2015, Dr. Tsanova has the scientific degree "Doctor", which means that she meets the requirement of the mandatory indicator of 50 points from **group A**. According to the indicators in **group B**, she has presented 6 scientific publications in journals with impact factor and quartiles (1 of them with Q1, three with Q2 and two with Q4) with which she has covered the required 100 points for this indicator.

According to the indicators from **group D**, 13 publications are presented, in this case the total number of points is 213 out of the required 200 points, and two are with Q2, five with Q3 and four with Q4.

The reference for the citations under **group G** is made correctly according to the requirements of Scopus and Web of Science and shows that of the scientific papers presented in the competition, twelve of them are cited 30 times, which is equal to 60 points.

According to **group E**, which are not required for the academic position of "associate professor" Ch. Assistant Professor Dr. Asya Tsanova has noted her participation in nine research projects and is a co-author of 4 textbooks for the training of students in biochemistry at the Faculty of Medicine in Bulgarian and English, with a total of 106 points.

From the presented scientific papers for participation in the competition, it can be seen that Dr. Asya Tsanova works in a current biochemical field, as the main scientific contributions can be divided into two areas.

*Analysis of the composition, properties and characteristics of the alveolar surfactant in normal and pathology*

In this direction an in-depth analysis of the composition, properties and characteristics of the alveolar surfactant in normal and pathology has been made. These studies are fundamental in nature, which evaluates the influence of the degree of deviation from the optimal composition of the alveolar surfactant on its properties and hence on lung function. In addition, the research conducted by Dr. Asya Tsanova has and a markedly applied nature for clinical practice in the search for rapid and adequate methods for the diagnosis of pulmonary maturity, as well as for the treatment of pulmonary dysfunction.

### *Interaction of molecules of biological significance with model membranes*

Cell membranes play an important role in the normal functioning of cells and can respond to external influences. In her research, Dr. Tsanova examines the interaction of various biomolecules such as neuropeptides, hydrophilic polymers, antimicrobial agents using specially selected monolayer or bilayer model membranes. An important place in these studies is the use of Langmuir monolayers, such as model membranes, which are a convenient and widely used system for studying the mechanisms of interaction between different amphiphilic molecules with biological membranes. The results obtained by Dr. Tzanova enrich the understanding of the molecular mechanisms of action of the tested compounds on biological membranes. In addition, these analyzes demonstrate the effectiveness of the application of model membranes as a suitable model for studying the activity of various newly created or modified biologically active molecules at the biomembrane level.

### **Teaching activity**

The teaching activity of Ch. Assistant Professor Dr. Asya Tsanova from 2007 until now, includes conducting practical and seminar classes on the courses "Biochemistry" and "Peculiarities of metabolism in normal and pathology" of students from the Faculties of Biology and Medicine in Bulgarian and English.

### **Opinions, recommendations and notes**

I have no remarks regarding the submitted materials in the competition. They are prepared correctly and clearly distinguish the scientific contributions of the candidate and fully meet the requirements of the law and the regulations of Sofia University "St. Kliment Ohridski ". My personal impressions of Dr. Asya Tsanova are excellent. She is always smiling, positive, always ready to help. She enjoys the respect of colleagues and students.

## **Conclusion**

The scientific papers presented for the competition by Dr. Asya Tsanova, show that the scientometric indicators exceed the requirements for holding the academic position of "Associate Professor", according to the Law on its implementation at Sofia University "St. Kliment Ohridski. The analysis of the materials submitted by Dr. Asya Tsanova, give me the full reason to express my positive assessment of her work and to recommend to the Scientific Jury to propose to the Faculty Council of the Medical Faculty to support the election of Ch. Assistant Professor Dr. Asya Tsanova for the academic position of "Associate Professor" in the professional field 4.3. Biological sciences (Biochemistry) for the Department of "Chemistry and Biochemistry, Physiology and Pathophysiology"

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Prof. Ivo Grabchev