

## REVIEW

by Prof. Lyubomir Evstatiev Makedonski, Ph.D.

Department of Chemistry, Medical University "Prof. Dr. Paraskev Stoyanov", Varna  
on the materials, scientific works, teaching and research activities and documents reflecting the  
professional development and improvement of

Chief Asst. Prof. **Veselina Zdravkova Panayotova, Ph.D.**,

single participant in a competition (announced in SG 14 / 18.02.2022), to hold the academic  
position of "Associate Professor" in the field of higher education 4. Natural science, mathematics  
and informatics, professional field 4.2 Chemical Sciences, specialty "Chemistry" for the needs of  
the Department of Chemistry, MU "Prof. Dr. Paraskev Stoyanov" - Varna

I was elected as a member of the Scientific Jury by the Order № P-109-161/14.04.2022 of the  
Medical University "Prof. Dr. Paraskev Stoyanov" - Varna. At the first meeting of the Scientific  
Jury, held on 27.04. 2022, according to Art. 127 (para 2 and 3) of the Regulations for development  
of the academic staff of the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, I was  
chosen as a reviewer.

### **General characteristics of the candidate's teaching, research and applied research activities**

In the announced competition for holding the academic position of "Associate Professor"  
participates only one applicant – Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D. who  
currently works at the same department.

The applicant has presented in electronic form (USB flash memory) containing a set of  
documents and publications of Chief Asst Prof. Veselina Zdravkova Panayotova, Ph.D for  
participation in the announced by MU "Prof. Dr. Paraskev Stoyanov" - Varna in SG, no. 14/  
18.02.2022 competition for the academic position of associate professor in the field of higher  
education 4. Natural sciences, mathematics and informatics, professional field 4.2 Chemical  
sciences.

The presented materials and documents fully meet the requirements of Law of the  
Development of the Academic Staff in Republic of Bulgaria and the Regulation for the  
development of the Academic Staff of Medical University - Varna. The career development of  
Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D in the last few years as a PhD student,  
lecturer and researcher at the Medical University "Prof. Dr. Paraskev Stoyanov" - Varna is well  
documented.

The points declared by the applicant by groups of scientometric indicators for the academic position "Associate Professor" are as follows:

Indicator	Minimal requirements	Points of applicant
A	50	50
B	100	100
G	200	210
D	50	54 + 44*

\* Presented citations outside the minimum scientometric indicators for the academic position "Associate Professor"

In group of **indicators A**, the applicant is presented a thesis on the topic: "Determination of biologically active substances in Black Sea algae" – **50 points**.

In a group of **indicators B**, the applicant is presented a monographic work entitled "Marine phospholipids – sources of very long chain fatty acids" (**100 points**)

In a group of **indicators G**, Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D has submitted a total of 15 scientific papers. The distribution by type and quartiles (Q) of these publications is as follows: 3 publications with Q2, 2 publications with Q3 and 10 publications with Q4 (**215 points**). There are additional 15 scientific paper presented as full-text publications in scientific journals and collections, outside the minimum scientometric requirements for acedemical degree associate professor.

In group of **indicator D**, the applicant evidence a total of 27 citations (excluding self-citations) of papers in scientific journals, reflected in the Web of Science and Scopus databases (**54 points**). There are also 22 additional quotes outside the minimum requirements, which the candidate has presented in the competition.

#### **Brief biographical data and carrier development**

In 2009 Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D graduated with a master's degree from the Faculty of Chemistry at Sofia University "St. Kliment Ohridski", specialty "Modern Spectral and Chromatographic Methods of Analysis". In 2015 after a successful defense of her doctoral thesis "Determination of biologically active substances in Black Sea algae" she acquired the educational and scientific degree "Doctor" at the Medical University of Varna in the scientific specialty: "Bioorganic chemistry, chemistry of natural and physiologically active substances".

In 2019 she acquired a specialty in the field of healthcare "Theoretical Concepts in Medical Chemistry".

In October 2012 she was appointed an assistant professor and since October 2016 until now she has been a Chief Assistant Professor at the Department of Chemistry, Faculty of Pharmacy at the Medical University - Varna.

### **Teaching activities**

The teaching activity of Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D significantly exceeds the mandatory classroom employment of MU "Prof. Dr. Paraskev Stoyanov"-Varna of 360 hours/year. For the previous academic year (2020-2021), she had totally 532 academic hours of teaching.

Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D teaches classes in the following disciplines: Lecture courses in Physical Chemistry and Colloid Chemistry as well as elective discipline of Chemistry and Environment for the major of Pharmacy (Master Degree) at Bulgarian language program; Practical exercises and seminars in Chemistry for the major of Medicine, both Bulgarian and English language program and for the major of Dental Medicine, Practical exercises and seminars in Inorganic and Organic Chemistry and Analytical Chemistry for students in Clinical Laboratory and Practical exercises and seminars Physical Chemistry and Colloid Chemistry for the major of Pharmacy (Master Degree), Bulgarian language program.

### **Co-authorship of textbooks and manuals**

Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D is a co-author of 7 textbooks and manuals, most of which are intended for students in English language program. Chief asst. prof. Vesselina Panayotova has co-authored 2 textbooks designed for practical and seminar exercises in Chemistry for students in Medicine and Dental Medicine, English language program and Inorganic and Organic Chemistry for students in Medical Laboratory. She is a co-author of 5 textbooks in English, which help the self-preparation of candidates in the English language program at MU-Varna.

### **Participation in the development of academic study program**

Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D has participated in the development of curricula in "Chemistry" for students majoring in Medicine and Dental Medicine (English language program) and in elective course of "Environment and Health" for students majoring in Pharmacy (Master's degree).

### **Further academic studies and postgraduate courses**

Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D. periodically raises her qualification. During the period 2016/2019, she had completed a postgraduate specialization in the field of "Theoretical Concepts of Medical Chemistry" and attended a number of postgraduate specializations, courses, seminars, trainings, etc.: "Theoretical Concepts of Medical Chemistry" (a specialty in the field of healthcare, 2019); "2nd Young Scientists School on Bio-antioxidants" Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences, 2018; „Working with an electronic platform Blackboard Learn+ – levels II and III" Learning content management, MU-Varna, 2019, etc.

## **Scientific activity**

### ***Areas of scientific interest***

The scientific interests of Chief Asst. Prof. Veselina Zdravkova Panayotova, PhD are in the field of improving the quality of life – food, health and biodiversity; food quality and potential effects on human health for a healthy style of life; strengthening the positive changes achieved in the national dietary model and achieving new ones to reduce the risk of nutritional deficiencies and non-communicable chronic diseases, and promoting consumption of foods that contribute to a healthy diet, as well as ensuring food access and availability for the general population; instrumental analysis. The scientific topics of Chief Asst. Prof. Veselina Zdravkova Panayotova, PhD can be organized in the following main areas: composition and biological / functional activity of marine and freshwater species; safety of marine and freshwater fish species and mollusks and mollusks and assessment of the risk-benefit ratio for consumption of Black Sea mollusks.

### ***Presenting materials for the competition***

The scientometric indicators of chief asst. prof. Veselina Zdravkova Panayotova, PhD meet the criteria of Law of the Development of the Academic Staff in republic of Bulgaria and the Regulation for the development of the Academic Staff of Medical University - Varna. For the period 2010 - 2021, the applicant has a total of 40 scientific contributions. In the current competition for the academic position of associate professor, chief asst. prof. Veselina Zdravkova Panayotova, PhD participates with 31 scientific contributions, of which:

- Habilitation thesis - monograph – 1
- Publications and reports, published in scientific journals with SJR and / or IF (indexed in Scopus and / or Web of Science) – 15
- Publications and reports, published in scientific journal referenced in the Web of Science without SJR – 4
- Publications and reports in non-referred peer-reviewed journals or conference proceedings without IF and SJR (non-indexed) – 11

Of the presented publications for participation in the competition, the applicant is a leading author of 11 of them which shows independence both in setting scientific aim and in presenting scientific results and their final publication. In 12 of the publications the applicant is designated as a corresponding author with main contribution in the ideology, methodology and analysis of data. The total IF of the journals in which the candidate has publications is **20,974**.

### ***Applicant's citations***

The results of chief asst. prof. Veselina Zdravkova Panayotova, PhD research have aroused serious interest from specialists abroad and in Bulgaria: the attached academic reference presents a total of 49 citations, which are in specialized journals indexed in Scopus and/or Web of Science.

### ***Applicant's participation in scientific forums***

Chief Asst. Prof. Veselina Zdravkova Panayotova, PhD has participated in 55 national and international conferences and various forums with international participation in Bulgaria. The dynamics of these scientific communications is very favorable (37 of them are in the last 5 years).

### ***Applicant's participation in research projects***

Chief Asst. Prof. Veselina Zdravkova Panayotova, PhD has contributed to the development and implementation of 6 scientific national and international projects, of which 1 funded by the OP "Human Resources Development" 2 – funded by Fund "Science" of MU-Varna, 2 – funded by "National Science Fund" and 1 – by National program "Young Scientists and Postdoctoral". She has been the research coordinator of one of them, funded by the "National Science Fund".

### ***Main contributions***

The main areas in the research of Chief Asst. Prof. Veselina Zdravkova Panayotova, Ph.D. can be summarized in the following scientific subareas:

#### ***1. Composition and biological/functional activity of marine and freshwater organisms and mollusks***

*I highly appreciate the developed rapid chromatographic method (HPLC/UV/FL) for simultaneous quantification of fat-soluble vitamins (retinol, cholecalciferol, ergocalciferol and  $\alpha$ -tocopherol), carotenoids ( $\beta$ -carotene and astaxanthin) and cholesterol in seaweeds and shellfish samples. The contents of biologically active substances in the lipid fractions of 7 species of Black Sea algae; economically important freshwater aquaculture species and Black Sea mollusks were analyzed.*

*The seasonal dynamics and the effects of thermal stress on the lipid composition of marine organisms have been studied.*

*The content of phenolic compounds and biological activity of algae and mollusk extracts and vitamin B<sub>12</sub> in Black Sea fish and mollusks were determined.*

#### ***2. Safety of Black Sea marine and freshwater fish species and mollusks***

*The total content of toxic and essential elements in Black Sea and freshwater fish, mollusks and algae has been determined.*

*The safety of Black Sea and freshwater fish and mollusks in terms of toxic elements content has been assessed.*

#### ***3. Assessment of the risk-benefit ratio in the consumption of Black Sea mollusks***

*An overall exposure assessment of the content of toxic and essential elements in wild and cultivated Black Sea mussels and an assessment of lipid quality indices PUFA/SFA, n-6/n-3, EPA + DHA, AI and TI were performed. Based on the results of the EPA and DHA content and the*

*content of each of the analyzed elements, the  $HQ_{EFA}$  index was calculated, which illustrates the risk-benefit ratio of the consumption of wild and cultivated mussels.*

### **Scientific contributions**

- ✓ *The results of the fatty acid composition were used to calculate the ratios (PUFA/SFA and n-6/n-3) and indices (atherogenic (AI) and thrombogenic (TI)) characterizing the quality of lipids as food. The obtained data can be used to enrich databases on the chemical composition of some of the most commonly consumed species of fish and molluscs in Bulgaria.*
- ✓ *The performed researches have a monitoring character, as cover a large number of species and a long period of time. Aquatic organisms (fish, molluscs and algae) can be used as an indicator to assess the pollution of water bodies. The obtained results contribute to the enrichment of the data on the pollution of the Black Sea.*
- ✓ *The results obtained for the content of toxic and essential elements and the parameters characterizing the quality of lipids were used to assess the risk-benefit ratio in the consumption of these seafood and freshwater products.*

The research activity of Chief Asst. Prof. Veselina Zdravkova Panayotova Ph.D. covers a wide range of topics in the field of food chemistry, characterized by its relevance, precision in the design of studies and the importance of the results, which are directly applicable to enrich theoretical information and their implementation in practice. The scientific knowledge, experience, publishing activity and erudition of the candidate and the team in which he works are evaluated not only nationally but also recognized internationally.

### **Administrative activity**

Chief asst. prof. Veselina Zdravkova Panayotova, Ph.D. is an academic coordinator of the first year students, major "Medicine", English language program and a large percentage of success in this aspect is due to personal and active participation. She has realized the joint scientific work with students majoring in Medicine and Pharmacy, and is a mentor of student demonstrators at the Department of Chemistry, English language program.

### **Personal impressions**

I have been known chief asst. prof. Veselina Zdravkova Panayotova, Ph.D. since her first day at the MU-Varna. My personal impressions are that she is an extremely tolerant, responsive and responsible colleague, as well as an extremely *conscientious and precise researcher*. The achievements in her career development are largely the result of her good professional training and continuing education, personal qualities and many years of hard work. There is a growing rhythm of her various activities over the years and a harmonious balance between the most important among them: significant in volume and importance educational work, preparation of textbooks and

teaching aids in Bulgarian and English, quality research with contributions and feedback in literature and commitment to administrative and organizational responsibilities.

**In conclusion:** The documents and materials submitted by chief asst. prof. Veselina Zdravkova Panayotova, Ph.D. meet all the requirements of the Law of the Development of the Academic Staff in Republic of Bulgaria and the Regulation for the development of the Academic Staff of MU - Varna.

The applicant has presented significant number of original scientific papers, which have received international recognition and has been published at peer-reviewed journals. After considering and analyzing the significance and contribution of the materials and scientific papers, I fully express my positive opinion and highly recommend to the members of the Scientific Jury to vote positively for the awarding of the academic position of "Associate Professor" to chief asst. prof. Veselina Zdravkova Panayotova, Ph.D., a single participant in this competition (announced in SG 14/18.02.2022) to hold the academic position of "Associate Professor" in the field of higher education 4. Natural science, mathematics and informatics, professional field 4.2 Chemical Sciences, specialty "Chemistry" for the needs of the Department of Chemistry, MU "Prof. Dr. Paraskev Stoyanov" - Varna

REVIEWER

Prof. Lubomir Makedonski, Ph.D.

Varna, May 20, 2022.