

# OPINION

by Prof. Dr. Nikolay Georgiev Vassilev, IOCCP – BAS

of the materials submitted for participation in the competition to hold the academic position of

**professor in Sofia University "St. Kliment Ohridski"**

professional field 4.2 Chemical sciences (Analytical chemistry)

In the competition for professor, announced in the State Gazette, issue 57 of 26.06.2020 for the needs of the Faculty of Chemistry and Pharmacy (FCP) of Sofia University as the only candidate participates Associate Professor Dr. Ivayla Nedyalkova Pancheva-Kadreva from FCP at Sofia University.

## **1. General presentation of the procedure and the applicant**

Associate Professor Dr. Ivayla Pancheva-Kadreva currently works in the Department of Analytical Chemistry at the Faculty of Chemistry and Pharmacy of Sofia University "St. Kliment Ohridski". She graduated from the University of Sofia "St. Kl. Ohridski" in 1992 with excellent success. She defended his doctoral dissertation on "Copper (II) complexes with antihypertensive drugs" in 2001 at the same faculty. Since 1997 she has been an assistant professor, since 2006 she has been a senior assistant professor, and since 2011 she has been an associate professor at the Department of Analytical Chemistry at the Faculty.

## **2. General characteristics of the applicant's activities**

From the total list of 53 publications of Associate Professor Dr. Ivayla Pancheva-Kadreva, she participated in the competition with 22 scientific papers, 19 of which are publications in scientific journals and 3 are full-text publications in proceedings of scientific conferences. All of them were published after taking the position of associate professor in 2011. According to the attached reference, the total number of citations of the candidate is 336,

and after 2011 it is 69. The Scopus database system calculates h index 9 for 33 publications of associate professors Dr. Ivayla Pancheva-Kadreva included in the system.

The scientific papers of the candidate are published in renowned international journals with high impact factor: 1 article in the *Chemistry Central Journal* (IF = 2.49 for 2019), 1 article in the *Central European Journal of Chemistry* (IF = 1.46 for 2016), 1 article in *Journal Of Drug Delivery Science And Technology* (IF = 2.73 for 2019), 1 article in *Chirality*, (IF = 2.17 for 2019), 1 article in *Forensic Science International* (IF = 2.11 for 2019), 1 article in *Open Chemistry* (IF = 1.22 for 2019), 1 article in *Inorganica Chimica Acta* (IF = 2.30 for 2019), 1 article in *RSC Advances* (IF = 3.12 for 2019), etc. The high reputation of the journals in which the scientific works of the candidate have been published is evidenced by the Q-factors of the journals: 2 publications are in journals with Q1-factor, 6 publications are in journals with Q2-factor, 7 publications are in journals with Q3-factor and 4 publications are in journals with Q4-factor.

The scientific works of Associate Professor Dr. Ivayla Pancheva-Kadreva represent the application of the methods of coordination and analytical chemistry for the study of the structure and properties of metal complexes of natural biologically active substances. These studies were performed using a wide range of physical methods applicable to the respective complexes. The standard analytical techniques are combined with a number of spectral methods (IR, MS, EPR, CD, NMR), and the interdisciplinary cooperation in these studies is impressive. The experimental data are supplemented with DFT and TDDFT quantum chemical calculations and simulations. Both *in vitro* and *in vivo* studies of the biological activity of the compounds have been performed.

According to the Academic Staff Development Act, the submitted publications can be considered as “publications in specialized scientific publications equivalent to a monograph” and “other original research publications”, and are fully sufficient to meet the requirements of the Act and the recommended requirements of the FCP at Sofia University. According to the recommended requirements of FCP at Sofia University, Associate Professor Dr. Ivayla Pancheva-Kadreva presented a Habilitation Paper, in which she summarized on 22 pages her research on the properties of the natural antibiotic Monensin. Both its ability to interact with metal ions in varying degrees of oxidation and its ability alone or as a metal complex to affect the viability of bacterial strains and cell lines are summarized and analyzed.

Scientific works of Associate Professor Dr. Ivayla Pancheva-Kadreva are at a very high scientific level, meet the theme of the competition and are in the field of analytical chemistry.

### **3. Teaching and project activity**

Associate Professor Dr. Ivayla Pancheva-Kadreva has a serious lecture workload. She is a lecturer at the Bachelor's course in Analytical Chemistry for students from the Faculty of Biology at Sofia University - specialties "Biology" and "Ecology and Environmental Protection" (30 hours), at the Bachelor's course in Analytical Chemistry 2nd part) for students from the Faculty of Biology at Sofia University - specialty "Biology and Chemistry" (60 hours), the course for masters in Analytical Chemistry (1st and 2nd part) for specialty "Pharmacy" of students from FCP of Sofia University (60 hours) and the course for masters in Analytical Chemistry (1st and 2nd part) in a foreign language for the specialty "Pharmacy". The candidate was the scientific supervisor of 6 graduates and 2 doctoral students. She has been the project coordinator of 3 research projects and has worked on the implementation of 7 other national and international projects.

### **CONCLUSION:**

Associate Professor Dr. Ivayla Pancheva-Kadreva fully complies with the regulations for the implementation of the academic staff in the Republic of Bulgaria and the regulations adopted by the Council of Ministers, as well as with the requirements of Sofia University "St. Kl. Ohridski" for the occupation of the academic position "Professor". The value of scientific production presented for participation in the competition is sufficient in volume, has been published in reputable scientific journals and has found wide echo in the literature. Based on the above, I am convinced of my positive assessment and suggest Associate Professor Dr. Ivayla Pancheva-Kadreva to be elected to the academic position of "Professor" in the professional field 4.2 Chemical Sciences (Analytical Chemistry).

Sofia, 15.10.2020

Writing the opinion: .....

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