

## OPINION

**by Assoc. Prof. Dr. Petya Georgieva Kovacheva  
Faculty of Chemistry and Pharmacy at SU "St. Kliment Ohridski",  
member of a Scientific Jury, appointed by Order No. RD 38-30/16.01.2024  
of the Rector of SU "St. Kliment Ohridski"**

**REGARDING: Competition for the academic position "Associate Professor", Field of higher education 4. Natural sciences, mathematics and informatics, Professional direction 4.2. Chemical Sciences (Analytical Chemistry) for the needs of the Department of Analytical Chemistry, Faculty of Chemistry and Pharmacy at SU "St. Kliment Ohridski", published in the State Gazette, no. 104 of 15.12.2023**

### **Procedure materials**

One candidate took part in the announced competition – Chief Assistant Dr. Veronika Valentinova Mihaylova. The candidate has submitted all the necessary documents and their examination shows that they are in accordance with the requirements of the Law on the Development of the Academic Staff of the Republic of Bulgaria, the Rules for its Implementation and the Rules for the Terms and Conditions for Acquiring Scientific Degrees and occupying academic positions at SU "St. Kliment Ohridski".

### **Brief biographical details of the applicant**

Veronika Mihaylova completed her higher education as a "Bachelor" in "Chemistry" in 2007, and as a "Master" in "Ecochemistry" in 2009 at the Faculty of Chemistry at SU "St. Kliment Ohridski". Veronika Mihaylova completed her master's degree with full honors, as the top of her class, and the subsequent doctoral studies in Analytical Chemistry for the period 2010-2013 was a natural continuation of her marked interest in environmental chemistry and the analysis of environmental objects. In 2013, Veronika Mihaylova obtained the educational and scientific degree "Doctor" after defending a dissertation on the topic: "Investigation of changes in the ionome of *Taraxacum officinale* under the influence of anthropogenic factors with ICP-MS", at the Faculty of Chemistry and Pharmacy of the Sofia University. Dr. Mihaylova's professional career began as a chemist (2009 - 2013) and continued as a Chief assistant (2013 - until now) and R2 researcher (2019 - 2023) for the implementation of activities under project BG05M2OP001-1.002 -0019 at SU "St. Kliment Ohridski".

### **Evaluation of the candidate's research activity**

#### ***Evaluation of scientometric indicators***

Dr. Veronika Mihaylova participated in the announced competition with a total of 21 publications, all of which are in refereed and peer-reviewed journals. In five of the publications, Dr. Mihaylova is the first author, and in seven – the second author, which is an indicator of her prominent personal contribution to the obtained results. The scientific publications presented for the competition are

distributed as follows according to the indicators in Law on the Development of the Academic Staff of the Republic of Bulgaria - 6 in indicator group B, and the remaining 15 scientific papers in indicator group D. The majority of publications are in quartile journals (Q1 and Q3).

The total number of citations of these articles is 92. It is clear from the attached references that the applicant fulfills the minimum national requirements under Art. 2b of Law on the Development of the Academic Staff of the Republic of Bulgaria for the field of Natural Sciences as follows: **indicator group A - 50 items, indicator group C - 109 items, indicator group D - 289 items, indicator group E - 184 items and indicator group G - 165 items.** The applicant's data also exceed the recommended criteria of the Faculty of chemistry and pharmacy of SU "St. Kliment Ohridski" for the acquisition of the academic position "Associate Professor", from group of indicators C, D, E and G.

The publications and citations with which Dr. Mihaylova participated in the current competition are not included in her dissertation for the acquisition of the scientific and educational degree of "Doctor", in accordance with the current law.

The Hirsch index of Chief assistant professor Veronika Mihaylova, according to Scopus, excluding self-citations of all authors, is 6, which shows the good scientific recognition of the candidate.

An essential component of the scientific and teaching work is the candidate's participation in 10 research and 1 educational project for the period from 2010 to the present. The results of the research conducted with the candidate's participation have been presented in 26 oral reports and poster presentations at national and international forums.

### ***Evaluation of scientific contributions***

On the basis of the presented author's reference for the contributions, the applied habilitation work, as well as the publications on the competition, I consider that Dr. Mihaylova's scientific research can be defined as interdisciplinary with a scientific-applied nature. Dr. Mihaylova's published articles are in the field of development and application of instrumental methods for the analysis of objects from the environment, archeometry and medicine. The candidate's scientific contributions are described in the submitted author summary and can be divided as follows:

1. Development and application of inductively coupled plasma mass spectrometry for determining the elemental composition of environmental samples;
2. Assessment of the impact of treatment plants on adjacent water bodies and determination of organic pollutants in water;
3. Archeometric studies with mass spectral and X-ray methods;
4. Development and application of inductively coupled plasma mass spectrometry in the analysis of anticancer platinum complexes.

For the participation in the current competition Chief assistant professor Dr. Veronika Mihaylova also presented a habilitation thesis entitled: "Investigation of the changes in the elemental

composition of various natural matrices under the influence of anthropogenic factors using mass spectrometry with inductively coupled plasma", which clearly and briefly describes the results obtained in the optimization and application of the ICP-MS method for the elemental characterization of water, sediment, soil and plant samples, statistical processing of the measured concentrations and assessment of their bioavailability in the human body. The diverse composition of the author collectives with which Dr. Mihaylova publishes shows her ability to work successfully in a team and a tendency to expand the scope of her scientific appearances.

### **Evaluation of the teaching activity of the candidate**

Dr. Veronika Mihaylova's teaching experience includes lectures on "Analytical Chemistry" for students majoring in "Biology", part time education and "Applied Statistics" for students majoring in "Ecochemistry", full-time education, as well as practical exercises in "Analytical Chemistry" and "Environmental Analytical Chemistry" for students majoring in biology and majors in Pharmacy, Chemistry, and Ecochemistry.

Dr. Mihaylova works successfully with graduate students, evidence of which is five successfully defended diploma theses under her supervision by students from the Bachelor's programs "Chemistry" and "Ecochemistry" and the Master's program "Ecochemistry" at the Faculty of chemistry and pharmacy of SU.

### **Assessment of compliance with the minimum national requirements and the recommended requirements of the Faculty of chemistry and pharmacy, Sofia University "St. Kliment Ohridski"**

The comparative analysis of the candidate's quantitative performance with the minimum national requirements for occupying the academic position "Associate Professor", as well as with the recommended requirements of the Faculty of chemistry and pharmacy at Sofia University, shows that the candidate fulfills the above-mentioned requirements, exceeding them in most indicators.

### **Conclusion**

The submitted materials for the competition meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Rules for its Implementation, the Regulations of the SU, as well as the recommended requirements of the Faculty of chemistry and pharmacy, Sofia University "St. Kliment Ohridski".

The competition materials, as well as my personal impressions from my long-term contacts with Dr. Veronika Mihaylova, dating back to her student and doctoral years, give me reason to confidently conclude that she is an established researcher with significant scientific research, whose academic position would contribute for the development and enrichment of Analytical Chemistry and its application in the field of studying and protecting the environment and water, archaeometry and medicine. At the same time, with her active participation in the educational process and her personal qualities, such as responsiveness, accuracy and responsibility, Dr. Mihaylova would contribute to the attraction of young personnel in the scientific fields in which she works.

**Based on the above, I give a positive assessment and recommend to the respected Scientific Jury to propose the awarding of the academic position "Associate Professor" to Chief assistant Dr. Veronika Valentinova Mihaylova in Higher Education Department 4. Natural Sciences, Mathematics and Informatics, Professional Direction 4.2. Chemical Sciences (Analytical Chemistry) for the needs of the Department of Analytical Chemistry at the Faculty of Chemistry and Pharmacy at SU "St. Kliment Ohridski".**

20.03.2024

Prepared the opinion:

/Assoc. Prof. Dr. Petya Kovacheva/