

OPINION

about the competition for an academic position “Associate Professor” in the professional field of 4.2. Chemical sciences (Analytical chemistry), published in the “State Gazette”, issue 104/15.12.2023.

by Assoc. Prof. Dr. Neli Nikolova Mintcheva-Peneva from the University of Mining and Geology, Sofia, a member of the academic committee, appointed with the order RD-38-30/16.01.2024 by the Rector of the Sofia University “St. Kliment Ohridski”

The chief assistant professor Dr. Veronika Valentinova Mihaylova is the only candidate for this position. She graduated from the Faculty of Chemistry and Pharmacy of the Sofia University "St. Kl. Ohridski", where she received a Bachelor of Science in Chemistry (2007), a Master of Science in Ecochemistry (2009) and a Doctor degree (2013) in the professional field 4.2. Chemical Sciences (Analytical Chemistry). From 2009 to 2013, she worked as a chemist, and from 2013 until now she is a chief assistant professor at the Department of Analytical Chemistry. Dr. Mihaylova is a co-author of 27 scientific publications, 26 of which were published in the peer-reviewed and indexed journals in the largest worldwide databases Web of Science and Scopus, and 1 publication was issued in a Bulgarian journal without an impact factor.

Compliance of the submitted documents with the evaluation criteria.

For participation in the current competition, 21 publications were submitted, 6 of which were included in the habilitation thesis (group B), and 15 papers were presented in group C.

Group A: 50 points were awarded for the PhD Degree.

Group B: A habilitation thesis was submitted to this group. Six publications, giving the required number of points (109 points out of the minimum required 100 points), were summarized in the work. The habilitation thesis is entitled "Investigation of changes in the elemental composition of various natural matrices under the influence of anthropogenic factors by using inductively coupled plasma mass spectrometry". It is very well structured and contains an introduction, definition of the scientific problem, development of the ICP-MS method and optimization of experimental parameters for the simultaneous determination of macro-, micro- and trace elements, and its application to the determination of the elemental composition of natural

matrices – waters, sediments, soils and plants. The contribution and novelty of the candidate's research are clearly deduced, and an appropriate bibliography is cited.

Group C: Total **15** scientific publications are presented in this group, and they give **289** points, out of the minimum required 220 points. **6** publications are ranked in quartile 1 (Q1), **2** publications are in Q2, **5** articles are in Q3 and **2** articles are in Q4. It is remarkable that 40% of the presented publications are in the highest category, which demonstrates the extraordinary level of the candidate's scientific achievements.

Group D: in this group, the citations of the author's publications in the world-famous citation databases (Web of Science and Scopus) are reported, where the candidate has noticed 92 citations, for which she receives 184 points, out of the minimum required 70 points.

Group E: The indicators presented in this group are the candidate's h-index = 6, her participation in 11 scientific projects for the period 2010-2024, and five graduated students under Dr. Mihaylova's supervision. All of these carry out a total of 165 points, out of the minimum required 70 points.

Research activity and participation in projects.

From the report for the candidate's scientific contributions, her research work can be systematized in four main areas:

1. Development and application of inductively coupled plasma mass spectrometry to determine the elemental composition of environmental samples (waters, sediments, plants and soils) (results were reported in 10 papers).

2. Assessment of the impact of treatment plants on the water bodies and determination of organic pollutants in water (results were reported in 6 articles).

3. Archaeometric studies by mass spectrometry and X-ray methods (3 articles were published).

4. Development and application of inductively coupled plasma mass spectrometry in the analysis of anticancer platinum complexes (data are reflected in 2 articles).

The candidate's scientific contributions are focused on (i) optimization and application of the ICP-MS method for simultaneous determination of a large number of elements in waters, sediments, plants and soils; (ii) determination of a large number of chemical indicators and data analysis by chemometric methods to assess the impact of wastewater treatment plants on surface water quality; (iii) determination of the chemical composition in gold, copper and other metallic

artifacts; (iv) development, optimization and validation of an ICP-MS method for the determination of trace concentrations of Pt in cell cultures.

For the period 2008-2023, Dr. Mihaylova participated in 16 projects, published 27 articles, was a supervisor of 5 graduated students and took part in 26 scientific conferences, which shows intensive and productive scientific work in cooperation with several teams.

Teaching activity

The report on Dr. Mihaylova's academic workload shows that she has fulfilled the national teaching requirements for the past 5 years. She delivered lecture courses and practical classes in analytical chemistry, lectures in applied statistics and practical work in analytical environmental chemistry. She actively worked in scientific research projects and supervised students who successfully defended their theses.

In conclusion, I would like to share that I do not know the candidate personally, but I was very impressed by the diligently prepared documents for the competition, that indicate her expertise in analytical chemistry, the high quality of the publications, and her active teaching and scientific work.

All materials and scientometric indicators presented in the competition fully meet and even exceed (total 742 points out of 510 points minimum requirements) the requirements of the Law for the Development of Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the recommended criteria for an academic position "Associate Professor" in the professional field of 4.2. Chemical sciences of the Sofia University "St. Kliment Ohridski". Consequently, I give my positive evaluation and confidently recommend to the respected scientific jury and the faculty board of the Faculty of Chemistry and Pharmacy of the Sofia University "St. Kl. Ohridski", to vote for the promotion of chief assistant professor Dr. Veronika Mihailova to the academic position "associate professor" in the professional field of 4.2. Chemical sciences (Analytical chemistry).

05.04.2024г.

Sofia

Reviewer:

Assoc. Prof. Neli Mintcheva, PhD