

STATEMENT

on a competition for an academic position "Associated Professor"

Professional field 4.2 Chemical Sciences (Analytical chemistry)

for the needs of Sofia University "St. Kliment Ohridski" (SU),

Faculty of Chemistry and Pharmacy, announced in State Gazette No 103 of 12.12.2023.

The statement is prepared by Prof. Dr. Petko Stoev Petkov, as a member of the scientific jury in the competition in the professional field 4.2 Chemical Sciences (Analytical chemistry).

In the competition for associate professor in Professional field 4.2. Chemical Sciences (Analytical Chemistry) for the needs of the Faculty of Chemistry and Pharmacy of SU "St. Kliment Ohridski", announced in the State Gazette, no. 103 of 12.12.2023, Dr. Galina Ivaylova Yotova is the only one candidate. Dr Yotova is a head assistant in the "Analytical Chemistry" department of the Faculty of Chemistry and Pharmacy at SU "St. Kliment Ohridski". Dr. Yotova graduated as a bachelor of chemistry and a teacher of chemistry and environmental protection at the Faculty of Chemistry of SU "St. Kliment Ohridski" in 2010 and in 2012 she graduated as a Master of Chemistry – Ecochemistry. In the period 2013-16, she was a PhD student at the Department of Analytical Chemistry, Faculty of Chemistry, SU "St. Kliment Ohridski" and successfully defended her dissertation on the topic: "Ecometric and ecotoxicological methods for the assessment of environmental objects". Dr. Yotova holds the positions of assistant and head assistant since 2015, in 2015-2016 she was a teacher at the National High School in natural sciences and mathematics in Sofia.

Teaching activity:

Dr. Yotova has made a significant contribution to education in three faculties of SU: FCP, FB, FPh. The applicant's teaching loading for the last three years is about 40% above the required. In addition to conducting practical exercises in nine disciplines in bachelor's and master's programs, a new course in Analytical Chemistry has been introduced by the applicant at the Faculty of Physics for teachers of natural sciences. Dr. Yotova was also the independent supervisor of a diploma thesis for the acquisition of the Master's degree and co-supervisor in the preparation of another diploma thesis for the bachelor's degree.

Scientific activity:

The total number of Dr. Galina Yotova's scientific publications is 19, published in scientific journals, referenced and indexed in global databases with scientific information (Web of Science and Scopus), of which 16 publications in journals with an impact factor (14 publications – Q1; 2 publications - Q2) and 3 publications in a journal without an impact factor. In the competition for

"Associate professor" Dr. Yotova presented 15 publications, four publications (Q1) were dedicated to the habilitation thesis on the topic "ECOMETRIC AND ECOTOXICOLOGICAL ASSESSMENT OF SURFACE AND WASTE WATER'. The scientific publications included in the habilitation thesis are related to the assessment of the quality of surface and wastewater, and their main scientific contributions consist in the application for the first time of: 1) Multivariate statistical assessment of wastewater from wastewater treatment plants (WWTP), 2) Monitoring scheme, including collection of wastewater samples from WWTPs and from the water basins into which they discharge, for which analysis of chemical and physicochemical indicators of water quality and ecotoxicological tests involving species from different trophic levels, and subsequent statistical modeling by PLS-DA to distinguish between WWTP wastewater and receiving water bodies, and to determine the classification-relevant factors and indicators of water quality, 3) An improved monitoring scheme, including the collection of samples of incoming and outgoing wastewater from WWTPs and water basins, before and after discharge, in which an analysis of a wide range of chemical and physicochemical parameters for water quality and more sensitive for the given samples ecotoxicological tests, and subsequent intelligent analysis of the data through PCA and PLS-DA, 4) A new approach for more detailed information on the surface water quality of the studied river basin by combining two multivariate analysis approaches.

Author reference for the contributions of the scientific works of Dr. Galina Yotova are mainly in the use of multivariate analysis of data from the environment, medicinal mixtures, food packaging as well as in the application and interpretation of results of ecotoxicological analyses. Scientific publications are well systematized and correctly reflect the scientific contributions of the candidate. They can be divided into three categories:

1. Ecometric and ecotoxicological assessment of water samples;
2. Ecometric and ecotoxicological assessment of soil samples and sediments;
3. Chemometric analysis of data on the toxicity of drug mixtures and packaging materials.

The report on the fulfillment of the minimum national requirements for scientific field 4. Natural sciences, mathematics and informatics, professional direction 4.2. Chemical Sciences shows that Dr. Galina Ivaylova Yotova, head assistant professor, fulfills the minimum national criteria and the recommended criteria of the Faculty of chemistry and pharmacy for occupying the academic position "associate professor".

Conclusion

After getting acquainted with the materials presented in the competition, analyzing their significance, I give a **positive** assessment and **recommend** the honorable Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Chemistry and Pharmacy of SU "St.

Kliment Ohridski", for the election of Dr. Galina Yotova to the academic position of "associate professor" at SU "St. Kliment Ohridski" in professional direction 4.2. Chemical Sciences (Analytical Chemistry).

06.04.2024 г.

Prepared by:

Sofia

(prof. Petko Petkov)