

Бр. 426/КМОТ-01/14.11.2025

OPINION

on a competition for occupation of the academic position "Associate Professor" in the field of higher education 4. "Natural Sciences, Mathematics and Informatics", professional field 4.4. "Earth Sciences", scientific specialty "Geology of the Oceans and Seas", scientific field "Paleoclimate and Geoecology of the Black Sea", published in the State Gazette № 63/01.08.2025,

with a candidate: Dr. Krasimira Ruseva Slavova, Chief Assistant at the Institute of Oceanology, Bulgarian Academy of Sciences

Reviewer: Assoc. Prof. Dr. Tzvetana Petrova Nonova, INRNE-BAS

1. General description of the presented materials

The documents submitted by the candidate for the competition correspond to the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the Implementation of ZRASRB, the Regulations on the Terms and Procedures for the Acquisition of Scientific Degrees and for the Occupancy of Academic Positions at the BAS, as well as of the Rules for the conditions and procedure for acquiring educational and scientific degrees and for occupying academic positions at the Institute of Oceanology at the Bulgarian Academy of Sciences.

The attached materials present a total of 40 publications, six of which are for the award of the educational and scientific degree "doctor" (four for the defense of the dissertation and two more for covering the scientific metrics indicators for registration in the National Center for Scientific and Technical Research (NACID) for the acquisition of the educational and scientific degree "doctor"). To participate in this competition, the candidate, Dr. Krasimira Slavova, has presented 34 publications, 14 of which are published in journals that are referenced and indexed in the global scientific information databases Web of Science and Scopus. Twenty of the titles are published in journals with scientific review, and six of them are published full texts of reports in International Symposium Proceedings. All publications are on the topic of the competition.

2. Publications before and after obtaining the scientific degree

The candidate Dr. Krasimira Slavova defended her PhD thesis at the Institute of Oceanology at the Bulgarian Academy of Sciences and received the educational and scientific degree "Doctor" in 2004. Of the 40 publications submitted, Dr. Slavova has published 32 after 2004. Two publications were published in 2003 and 2004 respectively, but were not submitted for the acquisition of the educational and scientific degree "Doctor".

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3. General characteristics of the candidate's scientific, scientific-applied and pedagogical activities

The research work of Dr. Krasimira Slavova is related to the study of coastal and deep-sea sediments of the Black Sea with the aim of establishing correlations between climate change, the change in the paleoecological conditions of the basin, sea level fluctuations and the dynamics of deposition of Late Pleistocene and Holocene sediments after the last glacial maximum. Long-term studies have been used to interpret and reconstruct the evolution of the Black Sea Basin by examining the relationship between various paleoindicators of the environment and paleoclimatic changes during the studied period.

Dr. Krasimira Slavova has participated in the implementation of 15 international and 9 national research projects in the field of environmental monitoring, sustainable coastal zone management, research into the impacts of global climate change on the marine environment, assessment and prediction of natural and anthropogenic risks of adverse events in the Black Sea, etc. Since 2018, she has been the national coordinator of 3 international projects funded by the International Atomic Energy Agency (IAEA) and the coordinator for the Institute of Environmental Sciences of the Bulgarian Academy of Sciences of 3 more projects funded by the European Commission (EC) under the Horizon 2020 and Horizon Europe programs. Leadership and participation in scientific teams expands the candidate's research activities, and the data obtained contribute to the development of scientific research in the field of geoecology of Black Sea sediments.

From my personal contacts with Dr. Slavova, I am also familiar with her pedagogical skills and her active participation in the promotion of activities and scientific achievements in the field of geoecology and the evolution of the Black Sea Basin. For the past 10 years, she has been a coordinator and active participant in the European event for the promotion of scientific research "European Night of Scientists".

4. Basic scientific and scientific-applied contributions

The main declared contributions are related to the study of the correlations between data from different paleoclimatic archives and different dating methods, supplementing and refining the existing models for paleoexchange of water masses between the Aegean, Marmara and Black Seas and the existing chronostratigraphic schemes for the Black Sea area, establishing criteria for studying the transition of the Black Sea basin from a regressive lacustrine phase to a transgressive marine phase at the end of the early Holocene, as well as interpreting and reconstructing the evolution of the Black Sea basin during the Late Pleistocene-Holocene time. A significant contribution is the obtaining of new data on paleoclimatic changes and ecosystem responses of the Black Sea zone over the last ~ 26,000 years, the definition of a curve of average surface salinity for the Black Sea basin for the last 20,000 years by applying an integrated approach to the interpretation of existing hypotheses for paleoexchange of water masses between the Mediterranean and the Black Sea. A new approach has also been applied to the study of carbon content in coastal marine sediments, yielding new evidence for accelerated sedimentation and increased rates of organic and inorganic carbon accumulation over the past 100 years in sedimentary records from the Black and Adriatic Seas.

The main scientific and applied contributions are related to the analysis and assessment of the content of some radionuclides and potentially toxic elements in Black Sea sediments using

nuclear analytical methods with the aim of standardizing the documentation of the sampling, sample preparation and analysis processes, as well as subsequent integration (for the first time in Bulgaria) of the obtained data into the database of the IAEA Marine Radioactivity Information System (MARIS).

In conclusion, it can be noted that the main declared contributions are related to obtaining new data, enriching and supplementing existing knowledge, applying new and optimizing some well-established methods in practice in order to achieve a better interpretation of paleoclimatic, paleoecological and paleogeological data on the evolution of the Black Sea Basin during the early Holocene.

5. Reflection of the candidate's scientific publications in our and foreign literature

The total number of publications that Dr. Slavova has submitted for participation in the competition is 34. Fourteen of them are printed in international journals, referenced and indexed in the world's databases of scientific information. From the list of all 34 publications it can be seen that 4 are in quartile Q1 (Scopus), 2 are in quartile Q2 (Scopus), 7 are in quartile Q3 (Scopus) and 1 is in quartile Q4 (Scopus). Twenty of the titles are published in journals with scientific review, and six of them are published full texts of reports in International Symposium Proceedings.

According to the presented materials, the criteria of BAS and IO-BAS for all groups of indicators from "A" to "D" are fulfilled as follows: for indicators from group "A" – 50 of required 50 points are presented, for group "B" – 115 of 100, for group "G" – 262 of 200 and for group "D" – 487 of 60 points. The candidate's scientific metrics fully cover, and in some indicators significantly exceed, the requirements for the academic position "Associate Professor".

6. Personal impressions of the reviewer about the candidate

I have personally known Dr. Krasimira Slavova for more than 10 years and my impressions are excellent. I have direct impressions of her good professional training and responsible attitude towards the activities performed. Dr. Slavova is competent, ambitious, creative and extremely efficient in her work. Evidence for this is high scientific productivity and her participation in numerous important national and international projects.

7. A motivated and clearly formulated conclusion

On the basis of the above, I strongly recommend the Scientific Jury to propose to the Scientific Council of the IO-BAS to elect Chief assistant Dr. Krasimira Ruseva Slavova for the academic position "Associate Professor" in the professional field 4.4. "Earth Sciences", scientific specialty "Geology of the Oceans and Seas", scientific field "Paleoclimate and Geoecology of the Black Sea".

Date: 13.11.2025

Assoc. Prof. Dr. Tzvetana Nonova