

STATEMENT

By Associate Professor Dr. Vasko Nikolaev Galabov, Head of the Marine and Specialized Forecasts Section at the National Institute of Meteorology and Hydrology (NIMH)

Regarding: competition for the academic position of Associate Professor in the field of higher education: code 4 “Natural Sciences, Mathematics and Informatics”; Professional field: code 4.4 “Earth Sciences”; Scientific specialty: “Oceanology”; Scientific area: “Wave processes, coastal hydrodynamics and risk in the coastal zone”

The competition has one applicant — Head Assistant Professor Dr. Natalia Kamenova Andreeva, working in the Coastal Zone Dynamics Section at IO–BAS. The candidate has worked at IO–BAS since 2000, and her scientific interests include studies of hydrodynamics and wave processes in the coastal zone; transformation and nonlinearity of wind waves in the coastal zone; statistical and spectral analysis of wind waves; wind and wave climate, wave energy; assessment of the impact of planned coastal structures on the hydrodynamic wave regime; assessment of risk and vulnerability of the coastal environment to flooding caused by adverse and extreme hydrometeorological events, and more. This makes her a very suitable candidate in connection with the theme of this competition. Natalia Andreeva holds two master’s degrees — in Oceanology from the Nikola Vaptsarov Naval Academy, Varna, and in Environmental Protection and Sustainable Development from the University of Chemical Technology and Metallurgy in Sofia. She obtained the educational and scientific degree Doctor at IO–BAS in 2013, with a dissertation closely related to the topic of the present competition.

1. General characteristics of the materials submitted for the competition:

For participation in this competition, the candidate presents 11 publications in journals with impact factor, 11 publications in proceedings and conference materials indexed in Scopus (with SJR), 3 monograph chapters, and one publication in a recognized Bulgarian journal. An impressive list of 204 citations is also presented, as well as participation in projects and other activities, such as numerous training courses, for which certificates are provided. A significant portion of these citations are in editions indexed in world-renowned databases. I myself have cited the candidate’s works many times in my own publications. I will not go into detail about the distribution of citations by groups — they exceed the national minimum requirements many times over. There is no information about teaching activity, but there is such regarding participation in science outreach events. My review shows that Natalia Andreeva fully meets the national minimum requirements according to the regulations for the application of the Act on the Development of the Academic

Staff in the Republic of Bulgaria (ADASRB) for holding the academic position of Associate Professor, as well as the higher specific requirements according to the regulations of the Bulgarian Academy of Sciences and the Institute of Oceanology.

2. Scientific and Applied Contributions of the Candidate:

The candidate has correctly grouped and systematized her scientific contributions. I have no remarks regarding the stated contributions. The first group of contributions relates to studies of the wave climate of the Black Sea. I am well acquainted with all of the candidate's publications, and they have been useful in my own research. The second contribution involves the study of storm activity in the Black Sea. Particularly interesting and useful to me was the work based on archival data. Here I would make one recommendation — an unexplored topic is the reflection of storms from the first half of the 20th century in the local press and in the recollections of local residents. I have published results from hindcasts based on ERA-Clim reanalysis, which show that the first half of the 20th century contained a series of extreme storms, for which unfortunately there is no information in the scientific literature. Such a topic could even be suitable for a PhD dissertation under the supervision of the candidate. Studies have been conducted on the statistical relationship between storm situations and global teleconnections such as NAO, AO, EA, SCAND, and the trivial relationship of storms in the western Black Sea with EA/WR. I myself have experience in this area, including collaboration with statisticians, and unfortunately I believe that the Black Sea's location results in weakly expressed connections with global teleconnections. More interesting are the links with the Atlantic Multidecadal Oscillation and the Pacific Decadal Oscillation, but for research in this direction I recommend working with longer simulations based on ERA5 and ERA-Clim.

The next group of contributions relates to studies of morphodynamics along sandy coasts of the Bulgarian shoreline. I am not a specialist in this field, but I have no doubt about the significance of the contributions, and it was interesting for me to review the candidate's publications in this area.

The following group concerns studies of wave impact in the coastal zone: proposed parameters for quantitative assessment of wave energy impact in the coastal zone, allowing objective evaluation of energy loading on the coastline depending on wave regime characteristics and the slope of the submerged profile. I consider these contributions to be very important from a practical perspective, and evidence for this is the fifth group of applied-scientific contributions related to assessment of wave energy impact under real conditions along the Bulgarian Black Sea coast: along the Varna shoreline from Cape Ekrane to Cape Paletsa, critical zones with the highest degree of impact were identified (Cape Ekrane and Cape St. George), as well as abrasion areas near Fichoza and Chernomorets, which should be prioritized for coastal protection measures.

3. Candidate's Recognition:

From the numerous citations, participation in international scientific forums, and involvement in international projects, it is evident that the candidate enjoys strong international recognition.

4. Conclusion:

I do not have personal impressions of the candidate within the framework of this competition, but I have read and cited her publications many times. Natalia Andreeva is a well-established researcher who fully meets all requirements to hold the academic position of Associate Professor. I have no remarks regarding the materials provided to me. I recommend that Natalia Andreeva continue her work in her areas of scientific interest and I look forward with interest to her future publications. All this gives me grounds, as a member of the Scientific Jury, to confidently vote "FOR" awarding the academic position of Associate Professor to Chief Assistant Professor Natalia Andreeva.

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