

REVIEW

on an application submitted for participation in the competition for the academic position of "**Associate Professor**", announced in the State Gazette No. 63 / 01.08.2025 for the needs of the Institute of Oceanology "Prof. Fridtjof Nansen" – BAS – Varna.

Field of higher education: 4. "Natural Sciences, Mathematics and Informatics";

Professional field: 4.4. "Earth Sciences",

Scientific speciality: "Oceanology",

Scientific field: "Wave processes, coastal hydrodynamics and risk in the coastal zone",

Scientific Section: "Dynamics of the Coastal Zone".

Candidate: Chief Assistant Prof. Natalia Kamenova Andreeva, PhD.

Reviewer: Prof. Todor Dimitrov Ganchev, PhD, Technical University of Varna.

1. Overall description of the application package

In the current competition for the position of Associate Professor, Dr Natalia Andreeva submitted a total of 26 scientific publications prepared in co-authorship, including:

- 10 articles in peer-reviewed scientific journals indexed in Scopus or WoS with quartiles Q1-Q4,
- 3 published as chapters in books, and
- 13 papers presented at scientific conferences.

Among these 26 publications, 22 are indexed in the world-renowned databases of scientific literature WoS and/or Scopus.

In addition to these 26 publications, Dr Andreeva has also included a list of 5 more papers (section "6.2.4") presented at scientific conferences, whose proceedings are not indexed in the Scopus or WoS databases.

Among these 26 publications, submitted to satisfy the minimum national requirements for acquiring an Associate Professor position, Dr Andreeva is the first author in 5 and in another 7, she is the second author. This indicates her skills to take a leading role in conducting research activities, and at the same time, her role as a valuable member of the scientific team. These 26 scientific publications were divided into three lists satisfying the minimum national requirements for the three publications-related groups of indicators ("B", "G", "D"). Specifically, these are:

- Under the group of indicators "B. Habilitation work", Dr Andreeva presents a list of 9 scientific publications in prestigious international journals and conferences, indexed in the world-renown databases of scientific literature WoS and/or Scopus, to meet the requirements of indicator "B.4. Habilitation work – scientific publications in journals that are referenced and indexed in world-famous databases with scientific information". Among these are:

- 1 article in an indexed scientific journal, belonging to quartile Q1,
- 2 articles in indexed scientific journals, belonging to quartile Q2, and
- 1 article in an indexed scientific journal, belonging to quartile Q4.

In addition, one of the research papers (6.2.1-9), presented at a peer-reviewed scientific conference, was subsequently published in a collection of papers from the series "Lecture Notes ..." published as a Scopus-indexed periodical falling into quartile Q4.

- In order to meet the minimum national requirements for the indicator group "G", Dr Andreeva presents two lists with a total of 17 publications in co-authorship. Among these:
 - The first list includes 14 publications (193 points in total) under the indicator "D.7. Scientific publication in journals that are refereed and indexed in world-renowned databases with scientific information". Here, 6 are articles in indexed scientific journals, including 2 articles in indexed journals belonging to quartile Q1; 2 in Q2; 1 in Q3; and 1 in Q4. The remaining 8 publications are research reports presented at scientific conferences, of which 7 are indexed in Scopus or WoS.
 - The second list includes 3 publications published as book chapters (45 points in total), under the indicator "D.8. Published Study or Chapter of a Collective Monograph".

Following a detailed review of the submitted lists, abstracts, and the full texts of all publications, I consider all 26 publications submitted for participation in the current competition.

In accordance with the requirements of the Bulgarian National Law for Admission to Academic Positions and the Regulations thereto, and to certify the absence of overlap between the publications used in the current and previous competitions, Dr Andreeva has provided a list of 6 publications that were submitted for the acquisition of her PhD degree.

To meet the minimum national requirements for the group of indicators "D", Dr Andreeva has presented three lists (for the individual indicators "D.11", "D.12" and "D.13") with a total of 204 citations from other authors, who have referred to 18 of her publications, as follows:

- a list of 162 citations (a total of 810 points) under indicator "D.11. Citations or reviews in scientific journals, refereed and indexed in world-famous databases with scientific information or in monographs and collective volumes", each contributing 5 points.
- A list of 16 citations (a total of 48 points) under indicator "D.12. Citations in monographs and collective volumes with scientific reviews", each contributing 3 points.

- A list of 26 citations (a total of 52 points) under the indicator “D.13. Citations or reviews in non-refereed journals with scientific peer review”, each contributing 2 points.

About 95% of the 204 citations submitted in the current competition originate from publications by foreign researchers working on similar topics.

In Table 1, I provide a summary of the evidence submitted by Dr Andreeva for the fulfilment of the various indicator groups. The table shows a formal comparison with the points calculated based on the evidence provided by Dr. Andreeva with the requirements specified in the relevant regulations of the Institute of Oceanology "Prof. Fridtjof Nansen" to the applicants for the Associate Professor position in the groups of indicators for the scientific field "4. Natural Sciences, Mathematics and Informatics", professional field "4.4. Earth Sciences".

Table 1. Comparison of the evidence provided by Dr Natalia Andreeva with the requirements for the fulfilment of the indicators for the acquisition of the Associate Professor position concerning the scientific area "4. Natural Sciences, Mathematics and Informatics", professional field "4.4. Earth Sciences".

Indicator group	Content by indicators	Minimum requirements for the acquisition of Associate Professor	Points of Ch. ace. Dr. Natalia Andreeva
A	Indicator 1	50	50
B	Indicator 3 or 4	100	129
G	Sum of indicators from 5 to 10	220	238
D	Sum of indicators 11 to 13	60	910
	Total for indicators	430	1327

The comparison presented in Table 1 shows that Dr Andreeva fulfils the requirements set for indicator "A", significantly exceeds the values in the groups of indicators "B" and "G", and over 15 times exceeds the requirements for the group of indicators "D".

2. Overview of the scientific and pedagogical activity of the candidate

Among the 26 publications considered for peer review under the current competition for Associate Professor, a total of 22 pcs. (approximately 85%) are indexed in the world-renowned databases for scientific literature (Scopus or WoS). A summary of the contributions formulated in the publications of Dr Andreeva follows in Section 3 of this review.

From the evidences provided in the application package, I can conclude that the topics and the number of scientific publications of Dr Andreeva show in-depth theoretical and experimental studies of wave processes in the Black Sea; storm activity and morphodynamics of sandy shores along the Bulgarian Black Sea coast; assessment of the

wave impact and vulnerability of the coastal zone; the energy potential of the sea waves in the Black Sea and along the Bulgarian coast; assessment of the coastal risk of extreme storms; Assessment of the impact of coastal protection hydro-technical facilities on the dynamics of coastal processes.

The wide range of research topics covered in Dr Andreeva's publications is due to her participation in 28 scientific projects, among which 10 were funded by international agencies and 18 were supported by the Bulgarian national funds. The results of these research activities, carried out with the participation of Dr Andreeva, were presented in 62 reports at scientific forums in Bulgaria and abroad. This indicates her significant contribution to the dissemination of the main achievements among the scientific community, but also of her efforts to gain broad public support for the activities of IO-BAS.

Natalia Andreeva's professional development as a scientist began with her admission as a PhD student at the Institute of Oceanology "Prof. Fridtjof Nansen" – Bulgarian Academy of Sciences – Varna in 2000. Although no specific data have been provided on the pedagogical activity of the candidate, it is clear from the curriculum vitae that in 2011 Dr Andreeva has been appointed to Chief Assistant Professor position in the field of higher education "4. Natural Sciences, Mathematics and Informatics", professional field "4.4. Earth Sciences", scientific specialty: "Oceanology", section "Dynamics of the coastal zone" at the Institute of Oceanology "Prof. Fridtjof Nansen" – BAS – Varna, which she still holds. Based on the large number of publications co-authored, including with less experienced researchers and PhD students, it can be concluded that in her joint work with them, Dr Andreeva has passed on the experience and knowledge gained both in terms of theoretical knowledge and practical skills in organising and conducting expeditions in the Black Sea region.

The materials submitted under this competition for the Associate Professor position do not provide information about authorship or co-authorship of university textbooks, practical guides, lectures, or information that she was the scientific supervisor of graduates, which confirms my initial impression that Dr Andreeva is mainly engaged in research and publication activities.

3. Analysis of scientific achievements and the nature of contributions

I acknowledge that the publications submitted in this competition reflect a substantial scope of research activity. Dr Andreeva has presented a summary of the most significant contributions in each publication. I acknowledge the formulations of her contributions as presented in the summaries of these publications and in the detailed list of contributions provided by Dr Andreeva. From my point of view, her contribution claims can be summarised in several main categories, as follows:

- Synthesis of models of the energy potential of sea waves in the Black Sea as a renewable resource and their experimental assessment.

- Synthesis of models of extreme storm events and their impact on the coastal zone of the Bulgarian Black Sea coast and determination of the coastal risk of extreme storms through various methods and relevant management strategies.
- Experimental verification of various models for assessment of the wave impact and vulnerability of coastal zones and assessments of the impact of using coastal protection hydrotechnical facilities on the dynamics of coastal processes.

I deem that these contributions can be attributed to the following main categories: synthesis of new models, development of methodologies for analysis and discovery of the spatial relationships between wind, wave and erosion processes for different Black Sea regions, analysis and quantification of erosion processes and the origin of the main factors influencing these processes. Based on the nature of the reported research results, I concluded that the candidate, Dr Andreeva, has made a significant contribution to the results achieved.

4. Recognizability by the research community

Regarding the significance and impact of Dr Andreeva's contributions and the importance of results to science and society, and indirectly her recognizability by the scientific community working in this area, I concluded based on the number of citations by independent authors and on the number of participations in research projects and scientific conferences:

- (1) Current reference as of 12.11.2025 for citations visible in the Scopus database, with self-citations excluded for all co-authors, shows 244 citations for 28 publications by Dr Andreeva, which corresponds to the Scopus h-index = 6. As of the same date, 534 citations of Dr Andreeva's publications are visible in Google Scholar, corresponding to the Google Scholar h-index = 12. This is a reliable indicator that the publications by Dr Andreeva and her team are followed by researchers working on similar topics, who rely on the results of the reported studies.
- (2) According to the provided evidence, Dr Andreeva is a co-author of 62 scientific reports presented at 39 international conferences in the country and abroad, which makes her well recognised among the scientific community on a national and international scale. The latter is also confirmed by the above-mentioned significant number of citations, predominantly by foreign scientists working on similar topics.
- (3) According to the provided reference, Dr Andreeva has participated in 28 research projects, including 10 international and 18 national, which is an excellent certification for the practical usefulness of her research activities. These projects contribute both to increasing the visibility and social importance of her research developments, as well as their impact on society.

5. Critical remarks and recommendations

I find the documentation well-organised and convenient for fact-checking.

I have no critical remarks on the merits regarding the orderliness and completeness of the documentation provided by Dr. Andreeva, yet, there is a discrepancy between the sum of the points obtained according to the evidentiary materials in the group of indicators "D" (a total of 910 points for 204 citations) and the declared 905 points in the document, entitled "11. Evidence of national minimum requirements and the requirements of the Regulations of IO-BAS for occupying the academic position of Associate Professor". I consider this discrepancy to be a technical error, which does not affect the outcome of this competition, as in all cases, Dr Andreeva exceeds multiple times the minimum national requirements for Associate Professor (60 points) in the group of indicators "D".

I believe that Dr Andreeva should be acclaimed for the long-term efforts she invested in improving her qualifications and for her sustainable professional development, which could serve as a positive example for young scientists, PhD students and postdoctoral researchers. Evidence of these efforts, aimed at systematically upgrading knowledge and skills, is the significant number of diplomas and certificates provided for participation in various qualification courses and training programmes.

My only recommendation to the candidate is to continue devoting part of her time to communicating her deep theoretical understanding about the nature of the processes along the Bulgarian part of the Black Sea coastline, as well as her research and practical experience to graduate students, young scientists, PhD students and postdoctoral researchers from IO-BAS, the other institutes of the Bulgarian Academy of Sciences, or the higher education institutions in the region.

In conclusion, it should be noted that the above-mentioned merits of Dr Andreeva's research and publication activities have become feasible thanks to her chance of getting into the strong scientific school in which she has been working for 25 years and to the development of which she herself has contributed significantly. At the same time, a large part of the reported achievements is also due to her effective cooperation with her colleagues from the primary research unit, thanks to which her participation in projects, research developments and publications has become feasible.

6. CONCLUSION

In conclusion, I express my satisfaction that the evidence presented in the competition allows for an objective and multifaceted assessment of the qualities of Dr Andreeva. The formal comparison of the presented scientific publications and scientometric evidence with the uniform national requirements according to the Bulgarian National Law on Admission of candidates for Academic Positions, the regulations thereto and the relevant bylaws of the Institute of Oceanology "Prof. Fridtjof Nansen" – Bulgarian Academy of Sciences – Varna for the occupation of Associate Professor position, unequivocally confirm that the

minimum requirements are met, and for certain groups of indicators they are exceeded or over exceeded multiple times.

The conclusions presented above give me grounds to confidently support Chief Assistant Prof. Natalia Kamenova Andreeva, PhD, emphasizing that she has the necessary professional and personal qualities, as well as the required scientific qualification to occupy the position of Associate Professor in the field of higher education "4. Natural Sciences, Mathematics and Informatics", professional field "4.4. Earth Sciences", according to the terms of the competition.

Date: 13.11.2025