

REVIEW

Associate Professor Guergana Guerova

Member of scientific jury for competition for the position "Associate professor" in professional field 4.4. Earth Sciences and, specialisation "Development and implementation of numerical models for forecasting sea waves, storm related sea level rise and systems for forecasting extreme marine phenomena"

This review was prepared on the basis of the order of the Director General of NIMH No. ND-04-32 / 08.10.2021 and the decision of the meeting of the scientific jury of 15.10.2021. It is tailored to the Law on the Development of Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for its implementation (PPZRASRB) and the NIMH Rules on ZRASRB. The review consists of three parts and a conclusion.

I. Requirements to the candidate

Art. 29 (1) and. 29b of ZRASRB, Art. 60 of PPZRASRB and Art. 56 (1), (2) and 57 (1) of NIMH Rules on ZRASRB

Head assistant professor dr. Vasko Galabov, graduated in 1997 at the Faculty of Physics of Sofia University "St. Kliment Ohridski". He has a master's degree in Physics and a specialization in Meteorology. In 2017 he defended his doctoral dissertation on "Creating a system for forecasting dangerous hydrodynamic phenomena in the Black Sea coastal zone." Since 1999 he has been working at the National Institute of Meteorology and Hydrology (NIMH), holding the position of assistant until 2017 and head assistant professor since 2018. The research activity of dr. Galabov is in the field of marine meteorology and operational oceanology.

The inspection of the submitted materials for the competition did not reveal a violation of the procedure for the eligibility of the candidate to the competition and I accept the submitted documents for review.

II. Requirements for research and development activities

Art. 29 (1) items 1, 3, 4, 5, 6, (2) and (3); 29b (1) of ZRASRB, Art. 60 (1), items 3, 4, 5, (2) and (4) of PPZRASRB and Art. 56 (1) items 1, 4, 5, 6, 7, (2) and (3) of NIMH Rules on ZRASRB

The scientific production of dr. Galabov submitted for review meets the requirement to not repeat the publications submitted for the acquisition of the scientific degree "Doctor". In addition, provided are: 1) the minimum requirements for the academic position of "Associate Professor", 2) citations and 3) scientific contributions.

SUMMARY TABLE

FOR THE VOLUME AND TYPE OF SCIENTIFIC PRODUCTION under Art. 1a (1) and (2) of PPZRASRB and Art. 2 (4) of the Rules of the NIMH under the Law on the Protection of the Human Rights and Fundamental Freedoms

Head assistant professor dr. Vasko Galabov

Group of indicators	For position "Associate professor"	
	Candidate points	Required points
A	50	50
Б	-	-
B	177	100
Г	212.85	200
Д	65	50
Е	-	-
Sum	504.85	400

As can be seen from the summary table Head assistant professor Galabov fulfills the minimum requirements for the academic position of "Associate Professor".

Publications. The list of publications presented by Head assistant professor Galabov for this competition includes 29 titles. They are in:

- international journals with SJR - 4 [B.4, B.8, B.9, Г.2]
- papers at international conferences - 8 [B.1, B.2, B.3, B.5, B.6, B.7, B.10, Г.1]
- Bulgarian journals with scientific review - 9 [Г.1, Г.2, Г.3, Г.4, Г.6, Г.8, Г.9, Г.16, Г.17]
- works in edited collective volumes - 8 [Г.5, Г.7, Г.10, Г.11, Г.12, Г.13, Г.14, Г.15]

There are 4 publications in Bulgarian and 25 in English and 11 of the titles presented for the competition are referenced in the Scopus database.

Citation. The total number of citations found in the Scopus database are 38. There are 4 publications submitted for review in this competition and they are cited a total of 13 times in refereed editions of the Scopus / Web of science databases. The distribution of citations is as follows:

- publication Г.2 (SJR, Q2) 3 citations in Scopus/Web of science.
- publication B.9 (SJR, Q1) 3 citations in Scopus/Web of science.
- publication Г.1 (SJR) 5 citations in Scopus/Web of science.
- publication Galabov et al. 2015. Investigation Of The Hydro-Meteorological Hazards Along The Bulgarian Coast Of The Black Sea By Reconstructions Of Historical Storms. Journal of Environmental Protection and Ecology, 16, 3. (SJR, Q3) 2 citations in Scopus/Web of science.

It should be noted that 12 of the publications that cite the work of Head assistant professor Galabov are by foreign authors, which clearly shows that his work is visible and with international significance.

Projects. Head assistant professor Galabov has led national and participated in international research projects and networks as follows:

Project type	Funding institution	Role	Number of project
National	MON postdoctoral	leader	2 (2020, 2021)
International	FP7 (IncREO, UPGRADE- Black Sea Scene) FP6 (ASCABOS) South East Europe Transnational Cooperation Programme (ECOPORT8, TEN Ecoport) Norway Grants (MISBS)	participant	6
Scientific network	COST (CA19109)	participant	1

Implementations. The implementations indicated in the competition are documented by orders of the directors of NIMH. They include: introduction of the following numerical models: 1) model for forecasting the movement of floating pollutants and floating objects (MOTHY, 2010), 2) model for forecasting high-resolution sea waves in coastal areas (SWAN), 2011) and 3) model for forecasting storm surges (Meteo France, 2015). In addition, Head assistant professor Galabov introduced the warnings for dangerous marine phenomena in the NIMH system for warning the population in case of dangerous and especially dangerous phenomena, which is part of the European system MeteoAlarm.

Research and applied research. The research work of Head assistant professor Galabov is in the field of marine meteorology and operational oceanography and is focused on studying: 1) long periods of waves, storms and storm surges in the Black Sea, 2) modelling of floating pollutants and floating objects and 3) numerical reconstructions of historical storms in order to use them to analyse the risks of coastal floods.

Scientific contributions. The main contributions of Head assistant professor Galabov to the study of the wave climate of the Black Sea is the use for significantly longer periods than those of previous authors. The research was conducted with the latest generation reanalyses of the European Center for Medium-Range Weather Forecasts (ERA CLIM and ERA5). Head assistant professor Galabov was the first to carry out numerical experiments on storm surges in the Black Sea for long periods, which is the first step towards creating climate projections for future changes in the regime of waves and storm surges. Contributions to the numerical modelling of floating pollutants and objects are aimed at oil spills in the port of Burgas, but a back-trajectory modelling is done to identify the point of origin of the carcasses of young dolphins dumped ashore in 2015. The cause of their death and this ecological problem of great public interest has been solved, which clearly shows the need of the expertise of Head assistant professor Galabov. In addition, numerical reconstructions of historical storms have been implemented in order to analyse the potential risks of coastal floods. In summary, contributions to the scientific and applied-scientific work of Head assistant professor Galabov are socially significant and are an important factor in the operational forecast of dangerous and especially dangerous phenomena in the Black Sea. I think that they are mostly independent.

III. Opinions, recommendations and notes

I think that the materials presented for the competition clearly show that Head assistant professor Galabov is an established scientist with extensive experience in numerical modelling of the Black Sea basin. I am confident that being a member of one of the leading groups in NIMH he will continue the traditions and will actively participate in raising the international prestige of the Institute.

Conclusion

The examination of the submitted materials for the competition did not reveal any violations in the procedure. The requirements of Art. 29 (1), (2), (3), Art. 29b (2), (3) of ZRASRB, Art. 60 (1) (2) and (4) and Art. 61 (1), (3) of the PPZRASRB, Art. 56 (1), item 1, item 4, item 5, item 6, item 7, (2), (3) of the NIMH Regulations on ZRASRB are met.

Based on my acquaintance with the documents of the candidate in the competition and the evaluation of the publications presented, I give a positive assessment of the overall work and recommend the choice of **Head assistant professor Vasko Galabov** for **Associate Professor**.

Date: _____

MEMBER OF SCIENTIFIC JURY:

Assoc. prof. Guergana Guerova