



## REVIEW

by Assoc.Prof. Anna Gueorguieva Yordanova, PhD – NIMH  
member of the scientific jury in the competition  
to hold an academic position "Professor"

in professional direction 5.7. "Architecture, civil engineering and geodesy", scientific specialty "Engineering hydrology, hydraulics and water management" (Development and implementation of products for forecasting river runoff and for forecasting extreme hydrological phenomena) at the "Hydrological forecasts" section of the "Forecasts and Information Service" department at NIMH, promulgated in SG no. 100/01.12.2023

This review was prepared on the basis of the order of the Director General of NIMH No. НД-04-3 of 29.01.2024 and the decision of the meeting of the scientific jury of 09.02.2024. It is in accordance with the requirements of the Law for the development of the academic staff in the Republic of Bulgaria (ZRASRB), the Regulations for its implementation (PPZRASRB) and the Regulations of NIMH on ZRASRB.

### I. Requirements to the candidate

under Art. 29 (1) and Art. 29b of ZRASRB, art. 60 of the PPZRASRB and Art. 56 (1), (2) and Art. 57 (1) of the regulations of NIMH under ZRASRB

Snezhanka Balabanova is graduated in the University of Architecture, Construction and Geodesy - Sofia with the qualification of Master of Water Engineering in 1981. She defended PhD dissertation in the scientific specialty "Engineering Hydrology, Hydraulics and Water Management" in 2010. Since 2012, she has held the position "Associate Professor" in the "Hydrological Forecasts" section at the "Hydrology" department, and since 2014 she is the head of the "Hydrological Forecasts" section at the "Forecasts and Information Service" department.

The scientific interests of Snezhanka Balabanova are in the field of flood early warning systems, hydrological and hydraulic modeling, preparation of hydrological forecasts and work with GIS. For the period 2004-2013, she has participated in 8 international courses in this research area. She works successfully with computer system and specialized software, namely ArcGIS, HEC RAS, HEC HMS, TOPKAPI, SWAT, STATISTICA, Artificial Neural Networks and has an award from ESRI Bulgaria for "High achievements in the application of geostatistical tools in scientific activity" in 2010.

Snezhanka Balabanova has presented extensive evidentiary material for her scientific and applied activity, to which 5 references from government organizations have been added, as well as a reference from NACID.

The necessary documents required by the RSARB and the Regulationshand its implementation (PPZRASRB) and the Rules of NIMH on ZRASRB, are attached. From the presented documents it can be seen that all the formal requirements of ZRSARB have been met (ART. 29). There is no proven plagiarism in scientific works according to the law.

### II. Requirements regarding scientific and research-applied activity

Art. 29 (1), p.1, p.3, p.4, p.5, p.6, (2) and (3), Art. 29b (1) of ZRASRB,

Art. 60 (1), p.1, p.3, p.4, p.5, p.6, (2) and (4) of PPZRASRB,  
Art. 56 (1), p.1, p.4, p.5, p.6, p.7, (2), (3) of NIMH rules on ZRASRB

Snezhanka Balabanova has submitted 34 publications in specialized scientific publications, which were not submitted in previous procedures for scientific titles and degrees - 18 of them are in refereed and indexed world-renowned databases and 16 are in non-refereed databases or in edited collective volumes. The total number of citations is 83, of which 66 are in scientific publications, referenced and indexed in world-renowned databases, and 17 are in non-refereed peer-reviewed journals. Self-citations are excluded.

In the scientific field researched by her, Snezhanka Balabanova supervised 3 young scientists who successfully defended PhD theses, as well as 1 young scientist and 1 postdoctoral fellow scientist under the national program "Young Scientists and Postdoctoral Fellows" funded by the Ministry of Education and Science.

Assoc. Dr. S.Balabanova was the head of 2 international and 4 national scientific projects and participated in another 5 international and 3 national scientific projects as a contractor.

### **III. Opinions, recommendations and notes**

The scientific and applied activity presented through the above information regarding the candidate's evidentiary material shows her significant contribution in the field of modeling and forecasting of river runoff, as well as in the study of the danger of floods in the territory of Bulgaria. This field has rapidly developed over the past 20 years through the powerful entry of software products into science.

Snezhanka Balabanova introduced the modern software and approach in the scientific field she researched at NIMH, created a methodology for their application in the Bulgarian conditions and built a school of young scientists who have an excellent command of this toolkit.

### **Conclusion**

From the inspection of the materials submitted for the competition, no violations were found in the procedure. The requirements of Art. 29 (1), (2), (3) of ZRASRB,

Art. 60 (1) (2) (3) and (4) and Art. 61 (1), (3) of PPZRASRB,

Art. 56 (1), p.1, p.3, p.4, p.5, p.6, p.7, (2), (3) of NIMH rules on ZRASRB.

Based on the familiarization with the candidate's documents for the competition and the evaluation, according to Art. 29b (2), (3) of the ZRASRB of the publications presented by her, I give a POSITIVE evaluation for the selection of the candidate. I recommend to the scientific jury and the Scientific Council of NIMH to nominate Assoc. Prof. Snezhanka Balabanova the academic position of "Professor" in the professional field 5.7. Architecture, civil engineering and geodesy.

**MEMBER OF THE SCIENTIFIC JURY**