



## POSITION

by Prof. Dr. Christo Georgiev Georgiev – member of a scientific jury in selection procedure of academic position "Professor" in professional field 4. 4. Earth Sciences, scientific specialisation Meteorology in section "Modeling of atmospheric pollution", Department of Meteorology of NIMH

This position was prepared following up the Order of the Director General of NIMH № ND-04-4 of 04.02.2022 and the decision of the scientific jury meeting on 15.02.2022. 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 (RIZRASRB) and the NIMH Rules on ZRARRB.

### I. Requirements to the applicant

according to Art. 29 (1) and Art. 296 of ZRARRB, Art. 60 of RIZRASRB и Art. 56 (1), (2) and Art. 57 (1) of the NIMH Rules on ZRASRB

From the CV and the documents submitted for the selection procedure it can be seen that the only candidate associate Professor Dr. Emilia Venkova Georgieva has completed the full course of the Faculty of Physics at Sofia University "St. Kliment Ohridski" in 1982 and obtained the qualification of Physicist with a specialization in meteorology. She started working in the same year at the Geophysical Institute (GFI), now NIGGG of BAS. Since 1984 she has been a full-time doctoral student at GFI and after defending her dissertation she obtained her PhD degree in Physical Sciences, diploma № 20500 from 26.07.1990. From 1984 to 2007 she passed a number of specializations lasting from 2-3 to 10-12 months in universities and research organizations in Italy, Germany, Russia. She obtained her habilitation in 2011 as a Senior researcher (Associate Professor) in GFI/NIGGG, certificate from the Higher Attestation Commission № 20713/27.06.2001 and continued her work there until 2011. In the meantime (2003-2006) she used to work for the Department of Physics of the University of Genoa, Italy in the field of numerical modelling of weather and air pollution in urban and forest conditions. In the period 2008-2011 she has been working for the Joint Research Center of the European Commission in Ispra, Italy, where she was involved in the methodological work for harmonized assessment of the quality of results from numerical modelling of air pollution and the development of appropriate software.

Since April 2012, Dr. E. Georgieva has held the academic position of Associate Professor at NIMH, and in 2019 she was elected a member of the Scientific Council of NIMH and Head of the scientific section "Modeling of air pollution".

The candidate submits a report on her scientific works, according to which she covers the required number of points for the academic position of Professor in all groups of indicators of the minimum national requirements. According to the information in the Register of



Academic Positions and Dissertations of NACID, Assoc. Prof. Dr. E. Georgieva fulfils the requirements for a PhD degree in field 4.4 Earth Sciences with 50 points from a defended dissertation and 65 points from 1 publication in an indexed-referenced edition and 6 articles in unrefereed journals with scientific review. She has managed 4 successfully completed projects, funded by research programs, which satisfies the additional requirement under Art. Art. 56 (1) item 5 of the Regulations of the NIMH under ZRASRB.

## II. Requirements regarding research and development activities

according to Art. 29 (1), p. 1, p. 3, p. 4, p. 5, p. 6, (2) and (3), Art. 296 (1) of ZRASRB, Art. 60 (1), p. 3, p. 4, p. 5, p. 6(2) and (4) of RIZRASRB, Art.56 (1), p. 1, p. 4, p. 5, p. 6, p. 7 (2), (3) of the NIMH Rules on ZRASRB

The candidate has submitted for the selection procedure 58 collective works, published after 2001, when she obtained the academic position of Associate Professor. There are 32 scientific publications and one review article in refereed and indexed editions. Five articles are published in unrefereed journals with scientific peer-review. There are 12 publications in edited collective volumes and 8 papers in proceedings of scientific conferences.

A list of 31 articles is presented, for which 188 citations in refereed and indexed editions, 22 citations in monographs and collective volumes, 4 citations in non-refereed journals with scientific review and one citation in a dissertation have been noticed since 2005. For one of the publications of Assoc. Prof. Dr. E. Georgieva 34 citations were noticed and for the others from 1 to 24 citations.

The contributions of the candidate are on the numerical modelling of atmospheric processes with applications in the field of atmospheric pollution, as follows:

- in the development of a methodology and software for quality assessment of model results for determining the concentration of surface pollutants and there application;
- assessment of the advantages and disadvantages of the Bulgarian system for modelling and forecasting "chemical weather" (BSPCW) in studying atmospheric deposition;
- assessment of the effect of using satellite data on the composition of the atmosphere in modelling air pollution in Bulgaria by BSPCW;
- determination of the sensitivity of the results from the modelling of the atmospheric pollution to the change of meteorological elements and improvement of their parameterization.

The reviewer is not in a position to assess the extent to which the candidate's contributions are independent, because the publications submitted for the selection procedure, without exception, are collective works and only one of them has a text that distinguishes the contributions of individual authors. Publications with the participation of Assoc. Prof. Dr. E. Georgieva as the first author can be considered as evidence of leading contribution, which is present in 12 issues or about 20% of the works. Of these, citations have been noted for 4 scientific publications. Special attention should be given to article № 3, published in the international journal *Earth* in 2021. Despite the large team of 12 authors, there is a significant conceptual contribution of Assoc. Prof. Dr. E. Georgieva. She also has a



leading role in conducting research on the effect of assimilating satellite data in BSPCW and presenting the results. The publication № 29 of 2007, cited in 8 articles, is an introduction to a special issue of J. Atmos. Environ. that does not present original research, there is no bibliography.

The candidate's participation in research projects is impressive. She is a contractor in 3 national and 8 international projects. Since 2014 she has been the manager of 2 national and 3 international projects with significant funding worth about BGN 600,000.

The development and educational activity of Assoc. Prof. Dr. E. Georgieva is significant. She participated in the development of 6 pieces of manuals, methodologies, software on numerical modelling of atmospheric pollution. She was a lecturer in Atmospheric Physics in a master's course at the University of Genoa, Italy (2004-2005), and in Climatology of Wind and Air Pollution - a post-master's course at the Polytechnic, Milan in 2005.

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

There were minor omissions in the information provided, including one auto-citation (№ 35 from the list, in connection with the authorship of Stortini, M.), the file of publication № 12 from the list does not open, from the copies of publications № 41 and № 43 it is not clear in which collective volume they are included and who are the editors of the publications. Among the scientific publications submitted for the selection procedure there are no one-man scientific works, which are necessary for recognizing the completeness of the applicants for the academic position of "Professor".

I have not worked in cooperation with Assoc. Prof. Dr. E. Georgieva, but knowing her for more than 25 years, I can distinguish her intelligence, activity and collegiality.

### **Conclusion**

The inspection of the submitted materials for the selection procedure did not reveal any violations 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 the Regulations of the NIMH under ZRASRB. Based on the acquaintance with the candidate's documents, her scientific, development, educational activity and publications presented by her, I propose that the Scientific Council of the National Institute of Meteorology and Hydrology elect associate professor Dr. Emilia Venkova Georgieva as "Professor" in professional field 4.4. Earth Sciences, scientific specialisation "Meteorology".

Date:

**MEMBER OF THE SCIENTIFIC JURY:**

**/Prof. Dr Christo Georgiev/**