



POSITION

By Assoc. Prof. Tatiana Stoycheva Spassova, PhD

member of the scientific jury in a competition for the academic position of "Professor" in professional field 4.4 "Earth Sciences", scientific specialty "Meteorology

The competition was published in the State Gazette No. 103 / 10.12.2021.

This position is prepared on the basis of Order of the Director General of NIMH No HD-04-4 from 04.02.2022 and the decision of the meeting of the scientific jury from 15.02.2022. It is in accordance with the requirements of the Academic Staff Development Act in the Republic of Bulgaria (ZRASRB), the Regulations for its implementation (PPZRASRB) and the Regulations of NIMH under ZRASRB.

I. Requirements to the candidate

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

Assoc. Prof. Dr. Emilia Georgieva, the only candidate in the competition, received a master's degree in 1982. at the Faculty of Physics of Sofia University "St. Kliment Ohridski", specialty "Meteorology". After completing her master's degree, she started working at NIGG (GFI) - BAS, as a physicist, and in the period 1984-1987 she was a full-time PhD student there. In 1990 she successfully defended doctoral dissertation on "Meteorological aspects of wind energy resources in Bulgaria - numerical models for the restoration of the wind field." Since 2001, she obtained the position of senior scientist II degree (associate professor). In the period from 2003 to 2006, she had been working at the Department of Physics, University of Genoa, Italy as a visiting professor and lecturer, and from 2008 to 2011 – at the Joint Research Center of the European Commission in Ispra, Italy. At both positions, her activity can be classified as a research one. In April 2012 she was appointed as Associate Professor at the National Institute of Meteorology and Hydrology, where she still works. From 2019 she is the head of the section "Atmospheric Pollution Modeling" at the Department of Meteorology.

The research activities of Assoc. Prof. Emilia Georgieva are mainly in the field of numerical modeling of atmospheric dynamics, air pollution modeling over different terrains (complex orography, urban environment) in different spatial and temporal scales, data analysis and models' validation.

Publications presented for the competition cover the period after 2001, i.e. after acquiring the position of "Associate Professor". All presented materials were carefully checked and no deficiencies and violations of the procedure for eligibility of the applicant had been found.

II. Requirements for research and applied activities

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

As seen from the presented materials, all indicators of the candidate Assoc. Prof. Dr. Emilia Georgieva exceed the minimum requirements for acquiring the academic position "Professor" in the professional field 4.4 Earth Sciences (Meteorology). Short description of these indicators follows:

- Requirements for group of indicators "A" - there are available points with a defended dissertation for obtaining the scientific and educational degree "Doctor" (Ph.D.) with a diploma of the Higher Attestation Commission № 20500 / 26.07.1990.
- In the group of indicators B4 are presented 11 publications with a total impact factor (IF) over 20 with a total number of points 128. The minimum required for the position of "Professor" is 100 points.
- The publications presented in group Г7 count 21, with a total IF over 45. In group Г8 13 publications are indicated. The total number of points for the two indicators "Г" is 262 with a minimum required to hold the "Professor" position of 200 points.
- The requirements in group of indicators "E", citations, have also been exceeded in many times - a total of 215 the citations are presented counting 1019 points, with a minimum of 100 points required for this position. It should be noted that a significant part of the citations are from foreign authors, which is a strong indicator for the international recognition of the candidate's scientific output.
- By group of indicators "E"; related to participation and management of national and international scientific or educational projects, the collected points are 469 with a minimum required for holding the position of 150 points.

A total of 58 articles and 7 manuals and methodologies were presented under the competition. In general, they can be combined in several groups: creation and development of methodologies and software products for comparison and evaluation of model results; modeling of atmospheric dynamics by creating new models, improvement and adaptation of existing ones; selection and application of appropriate models for specific scientific and applied tasks.

Assoc. Prof. E. Georgieva is a participant in 8 international projects and 3 projects funded by Bulgarian organizations, institutions and funds. From these projects, she was the leader of 3 international (SAAP4FUTURE, CONSPIRO, SIDUAQ) and 2 national (Desert Dust, DEP) ones.

In the detailed report for scientific and scientific-applied contributions, it is clearly stated the exact role of the candidate in each considered study. Publications directly related to each of the contributions are listed. The latter are classified into several groups:

- Development of a methodology and software product for a harmonized assessment of air pollution model results (DELTA-tool)
- Different approaches for evaluation of model results
- Study of the atmospheric pollutants deposition in Bulgaria using the Bulgarian Chemical Weather Forecasting System, developed at NIMH
- Use of satellite data for atmospheric chemistry in air pollution modeling

- Studing the influence of meteorological parameters and emissions on modeled and/or observed concentrations and depositions of atmospheric pollutants

All activities presented by Assoc. Prof. Georgieva are mainly results from project and team work. In many of the activities she is the initiator and leading scientist, with a significant contribution to the development and implementation of tasks

III. Opinions, recommendations and notes

I have known Emilia Georgieva since my student years, when we were in a same group at the Faculty of Physics. Even then, she was distinguished by her keen interest and deep insight into the studied disciplines. She has obviously not lost this interest and scientific "curiosity" till now, always following and sharing the latest research of Bulgarian and foreign authors. Her scholarships and work abroad have met her with prominent international scientists in the field of Earth sciences, and these personal acquaintances often give her the opportunity to keep up to date with the latest achievements, models and products in the field.

It is great that she is able to generate ideas, skillfully analyze and accurately assess where her and other people's ideas could be applied in the NIMH's activities. She always responds to requests for assistance, guides and advises young colleagues. She has an enviable workability, competence and collegiality. Assoc. Prof. E. Georgieva successfully handles various air pollution models by updating and applying them to new tasks (pollutant depositions, satellite data assimilation, desert dust transport). She has proven her ability to be a leader of national and international teams.

Conclusion

The inspection 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 PPZRASRB Art. 56 (1), item 4, item 5, item 6, item 7, (2), (3) of the Regulations of NIMH under ZRASRB are FULFILLED.

Based on the acquaintance with the documents and the evaluation of the candidate's publications, I give my clear and definitive opinion that Assoc. Prof. Dr. Emilia Venkova Georgieva deserves to be awarded the academic position of "Professor".

Date:

Member of the scientific jury:

/Assoc. Prof. Tatiana Spassova/