



POSITION

Associate Professor Maria Kolarova
member of Scientific Jury in the competition for academic position "Professor"
in the area 4. Natural sciences, mathematics and informatics,
professional field 4.4. Earth Sciences, scientific specialization Meteorology
in the section "Modeling of atmospheric pollution", department of Meteorology of NIMH
The competition was published in the State Gazette no. 103 / 10.12.2021

This review was prepared on the basis of Order of the Director General of NIMH № ND-04-4 from 04.02.2022 and decision of the meeting of the scientific jury, 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 (PPZRASRB) and the NIMH Rules on 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 NIMH Rules under ZRASRB

Assoc. Prof. Dr. Emilia Venkova Georgieva is the only candidate in the competition. She graduated from the Faculty of Physics at Sofia University "St. Kliment Ohridski" in 1982 with a master's degree in meteorology. She started as a physicist at the Institute of Geophysics within the Bulgarian Academy of Sciences (now NIGGG), where from 1984 to 1987 she was a full-time PhD student and in 1990 she became a candidate of physical sciences (doctor) in meteorology (diploma № 20500 / 26.07.90 from the Higher Attestation Commission). At NIGGG she works until 2011 on scientific positions from scientist I-III degree to senior scientist II degree (associate professor, certificate № 20713 / 27.06.2001 of the Higher Attestation Commission). She has been to various specializations as: 10 months at the University of Hanover, Germany, (grant from DAAD) in 1991-1992, in Italy, in the period 1994-97, 1999, 2002, 2007 at the University of Genoa with ICTP grants (a total of 5 specializations with duration from 2 to 12 months). From 2003 to 2006 she was a visiting professor at the Department of Physics, of University of Genoa, Italy, and from 2008 to 2011 she was employed at the Joint Research Centre (JRC of EC), Ispra, Italy working in the field air pollution. Since April 2012 she is working as an associate professor at NIMH and currently she is the Head of the Air Pollution Modelling Section at the Department of Meteorology. Her professional experience is in the field of air pollution modelling (atmospheric numerical models in different scales), comparison of modelled and observational data, meteorology and urban air pollution, assessment of wind energy, etc.

The NIMH commission and also the members of the Scientific Jury, has checked the submitted materials for the competition and has not found any violations of the procedure, and the candidate was allowed to participate in the competition.

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

Only scientific publications after 2001 are presented for review, which do not repeat the ones presented for the acquisition of the scientific degree "Doctor" and for the acquisition of the academic position "Associate Professor". References to citations and to the scientific contributions are presented, as well as a report on the fulfilment of the minimum requirements for holding the academic position of "professor".

Scientific publications (Group B and Γ). For this competition E. Georgieva has presented a list of publications after 2001 with full texts which includes 58 titles separated in following groups according to the requirements: a) In refereed and indexed editions - 33; b) In unreferred journals with scientific review - 5 ; c) In edited collective volumes – 12 ; d) In papers at international and national conferences - 8 ; g) Software / Model Guides and Methodology manuals - 6. All papers submitted for review are co-authored with other scholars and in many of them E. Georgieva is a leading author. In Scopus и WoS data bases are referred 9 of the titles and 23 are published in journals with high impact rang (the total IF is 60).

In the presented by E. Georgieva reference to meet the minimum requirements for the academic position of "Professor" a summary table is given with the fulfilment of the minimum points for the groups concerned, which shows that the sum of the points in all groups of indicators is equal to or significantly exceeds the minimum requirements.

The analysis of the groups of indicators shows that group A takes into account the doctoral thesis of the applicant and the points are equal to the minimum required.

In Group B4 (*scientific publications (not less than 10) in publications that are referenced and indexed in world-renowned databases of scientific information*) a list of 11 publications is presented and 10 are published in international journals, of which 9 are publications in journals with impact factor of 0.35 to 5.3, and the total number of points is 128 with a minimum requirement of 100 points.

In Group Γ (*indicators 5-9*) E. Georgieva used only two (7 and 8) as indicator 7 (*scientific publications in publications that are referenced and indexed in world-renowned databases of scientific information*) presents a list of 23 publications with a DOI-index (14 of them were published in international journals with an impact factor of 0.35 to 8), and the remaining 8 are published in full text in proceedings of international conferences in Bulgaria. According to indicator 8 (*scientific publications in unreferenced journals with scientific review or in edited collective volumes*) a list of 13 publications is presented, 12 of which are in English and 1 in Bulgarian. For each article in Group Γ, the corresponding number of points is given, and the total sum exceeding the minimum requirements of 200 points. The groups B and Γ contain a total of 55 publications.

Citations of scientific publications (Group D). The citations submitted are given in 3 groups, as in D10 (*Citations in scientific publications referenced and indexed in world-renowned databases of scientific information*) respectively are given 189 citations of 5 points (945 points in total); in D11 (*Citations in monographs and collective volumes with scientific review*) – 22 citations of 3 points (66 points in total) are given and in D12 (*Citations in unreferenced journals with scientific review*) - 4 citations of 2 points (8 points in total). The total number of citations (the majority of which are from foreign authors) is 215 citations with 1019 points in total, which shows a very good reflection of the scientific results of E. Georgieva in the specialized world literature.

Scientific projects (Group E). Associate Professor E. Georgieva has participated in 8 international (3 COST activities, 2 bilateral collaborations between BAS and the Italian CNR, 2 European projects of EC-JRC, Ispra) and 3 national projects (funded by the Bulgarian National Science Fund, Ministry of Education and Science and Ministry of Environment and Waters). She has managed 3 international (SAAP4FUTURE, CONSPIRO, SIDUAQ) and 2 national (DEP and Desert Dust) scientific projects. The total amount of attracted funds for projects managed by E. Georgieva is in the order of 600 thousand BGN. I appreciate as a very good the work of E. Georgieva related to the

management of scientific projects implemented with large scientific teams and various international programs.

Scientific contributions. In the list of contributions E. Georgieva defined her activities in five main areas that can be summarised as *creation of new methods and software products with application in practice* and are applied for the assessment and improvement of atmospheric pollution models. In particular, the more important contributions are: (1) establishing a methodology and software product for a harmonized assessment of model results for ambient air pollution, activities under the European initiative FAIRMODE and (2) assessment of model results using different approaches in Bulgaria and Italy. The developed methodology and software have been applied in Bulgaria through the BgCWFS model system developed at NIMH. E. Georgieva participates in the writing of 2 manuals on the use of air pollution models, practices that summarize the best recommendations of the EEA and ETC/ACM when using them in Europe. *Contribution 3* - Study of atmospheric deposition in Bulgaria using the BgCWFS of NIMH – a scientific project funded by the BG National Science Fund headed by E. Georgieva. The scientific results obtained are related to gaining new facts and enriching existing knowledge with application in practice. *Contribution 4* - Use of satellite data on atmospheric chemistry in pollution modelling in Bulgaria (SIDUAQ project) – a pilot study for Bulgaria, funded by ESA and headed by E. Georgieva. The contributions to this project can be summarized as developing a methodology and enriching existing knowledge with application in practice and a contribution to the operational work in the NIMH related to the development and implementation of BgCWFS. I agree with the contributions thus formulated in the summarized report of Assoc. Prof. Dr. E. Georgieva.

III. Opinions, recommendations and notes

I know Emilia Georgieva from the period of her doctoral studies at GFI, also from her specializations in Italy in 1994-2000, and after 2012 as colleagues in the section Modeling of air pollution at NIMH we have worked together on a number of projects. I follow closely her publications and quotes, as we work in the same scientific field, as well as her scientific development over the years. I appreciate her great ability to work, initiative and competence in scientific work, as well as her qualities as a leader of scientific tasks and research projects.

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 are fulfilled.

Based on the acquaintance with the documents of the candidate in the competition and the evaluation of the publications presented by her, I give a positive assessment of the overall work of Emilia Venkova Georgieva and I am convinced that she fully deserves the award of the academic position "Professor" in professional field 4.4 Earth Sciences, scientific specialization "Meteorology". I propose to the members of the Scientific Jury to recommend to the Scientific Council of NIMH to vote for the election of Emilia Georgieva for academic position "Professor".

Date:

Member of Scientific Jury:

Assoc. Prof. Maria Kolarova/