

## POSITION

of Prof. Dr Christo Georgiev Georgiev – member of a scientific jury in selection procedure of academic position "Professor" in higher education area 4. Natural sciences, mathematics and informatics, professional field 4.1. Physical Sciences, Meteorology (Stochastic Modeling in Meteorology and Hydrology)

This position was prepared following up the Order of the Director General of NIMH № ND-04-18 of 02.10.2019 and the decision of the meeting of the scientific jury on 18.10.2019. 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

The CV and documents submitted for the selection procedure show that the only applicant, Neiko Mateev Neikov, has completed the full course of the Faculty of Mathematics and Mechanics, Sofia University "St. Kliment Ohridski ", with diploma № 080147 / 12.11.1976 he received the qualification Master of Mathematics, specialization "Probability Theory and Mathematical Statistics".

He started to work as a part-time assistant professor of mathematics at the Higher School of Economics in Plovdiv for one academic year, after which he was a research fellow of the III-I degree at the Central Laboratory for Automation of Biological Experiment, Unified Center for Biology at the Bulgarian Academy of Sciences for ten years. On August the 1<sup>st</sup>, 1988 Neyko Neykov moved to work at the NIMH-BAS. After a free doctorate, he defended his thesis on the topic "Robust Methods in Multivariate Statistical Analysis" and received a scientific degree "PhD in Mathematical Sciences" in 1996, and 4 years later habilitated as an "Associate Professor". After defending his dissertation "Robust Statistical Modeling by Trimming" at the Institute of Mathematics and Informatics-BAS, in 2016 he obtained a scientific degree "Doctor of Sciences in Mathematics".

The applicant was elected head of a scientific section as well as a member of the Scientific Council of NIMH for several consecutive terms. He is currently in charge of the Specialized Forecasts Division of the NIMH's Forecasts and Information Services Department. He has substantial professional experience as a researcher and lecturer in statistical modeling. He has been working successfully in co-operation research in 7 European countries for periods ranging from 1 to 18 months.

## II. Requirements regarding research and development activities

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, (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

A habilitation work is presented - a collective monograph published in 2019. The separation protocol between the authors of the monograph, sent additionally to the members of the jury, shows that Assoc. Prof. DSc. Neyko Neykov has an independent contribution, which corresponds to the monograph definition under the ZRASRB. The applicant also participated in the selection process with 20 other scientific publications. Among them, 4 are articles in journals abroad, refereed and indexed (in Scopus and Web of Science), and 6 are in Bulgarian non-refereed scientific journals. There are published 1 paper presented at a national conference and 5 at international conferences. Four of the papers are in proceedings of papers of scientific forums presented by the applicant as book chapters on the basis of the registration of the editions with ISBN and compiler/editor(s) accordingly. The applicant also has submitted 1 review, printed in a prestigious specialized edition and 4 technical documents, developed in the framework of a joint project between BAS and Göttingen University, Germany.

All presented publications are in the field of statistical modeling and the application of probabilistic statistical methods for data analysis. The applicant has submitted a list of seven of his articles, which since 2017 have been cited in 53 publications in refereed and indexed publications and 3 in scientific conference proceedings.

Substantial part of the scientific results concerns analyses of phenomena in the field of meteorology and hydrology being highly probabilistic and statistical in nature. Examples of the applicant's valuable works in this regard are in the field of stochastic precipitation modeling (e.g. paper [7], also included in the monograph [1], etc.), as well as contributions to the development of methods for the analysis of the spatial distribution of extreme values (e.g. paper [14]). Considering the scientific orientation of Assoc. Prof. DSc Neiko Neikov and the fact that he is the first author in more than half of the presented scientific publications, it can be assumed that his role in the collective works is essential.

From 2000 to 2019, Assoc. Prof. Neyko Neykov has managed three projects of the NIMH Research Plan and two international projects under the IBR of the Central Unit of BAS. He was a participant in 2 national and 18 international research projects.

The applicant presents significant in volume and quality teaching activities in the field of stational modeling and applied statistics. In 9 academic years from 2006 to 2018, Assoc. Prof. Neyko Neykov conducted a total of 210 hours of exercises and lectures at the Faculty of Mathematics and Informatics of Sofia University "St. Kl. Ohridski ", he also led 7 graduates. He taught courses in statistics for specialists - 1 in NIMH-BAS in 2014 and one in Italy in 2005.

Since the beginning of 2017, Assoc. Prof. DSc Neyko Neykov has managed four contracts with external NIMH funding, with an average duration of less than one year, three of which have been successfully completed.

The applicant has submitted information list about his activities and scientific papers, presented in the selection process, according to which he covers the required number of points for all groups of indicators of the minimum national requirements for academic position of "Professor" in the professional field 4.1. Physical Sciences.

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

I have been working together with the applicant for over 25 years in the same NIMH units and I know him very well. It is distinguished by its academic behaviour and tolerance. Disadvantages in the presented activities is the lack of evidence of implemented scientific developments in the operational work of NIMH, as well as the fact that he mainly managed projects from the scientific plan of NIMH-BAS. Having worked as an associate professor for the last 20 years, it was only after 2017 that Neyko Neykov acts as the manager of contracts, funding by external to NIMH sources. Among the publications presented for the selection procedure and those mentioned in connection with his dissertation for a Doctor of Sciences in Mathematics, there are no any one-man scientific works, which are necessary for recognising the completeness of the applicants for the academic position of "Professor".

The strengths of his application consist mainly in the degree of Doctor of Science in Mathematics, his work in a number of international scientific teams and the publication of relevant works, widely reflected in the scientific literature, as well as his considerable pedagogical activities.

### **Conclusion**

The examination of the submitted materials for the selection process does not reveal any violations in the procedure. On the basis of consideration of the documents of the applicant for the selection procedure, evidences of scientific and teaching activities and the publications submitted by him, I propose that the Scientific Council of the National Institute of Meteorology and Hydrology vote for election of Assoc. Prof. DSc Neyko Mateev Neykov for "Professor" in professional field 4.1. Physical Sciences, Meteorology (Stochastic Modeling in Meteorology and Hydrology).

**Дата: 11.12.2019 г.**

**MEMBER OF THE JURY:**

**/Prof. Dr Christo Georgiev/**