

ИНСТИТУТ ЗА КОСМИЧЕСКИ ИЗСЛЕДВАНИЯ И ТЕХНОЛОГИИ - БАН	
Вх. №	785 28.09.2020

POSITION STATEMENT

by Prof. DSc Dr. Garo Mardirossian
Space Research and Technology Institute - BAS
in a competition for the academic position of "Associate Professor"

This review has been prepared in accordance with Order № 87/24.07.2020 of the Director of the Space Research and Technology Institute (SRTI) at BAS and the decision of the Scientific Jury from the meeting of 10.09.2020 (Report № 1/10.09.2020).

The competition was announced in the State Newspaper № 56/23.06.2020 and is in the field of Higher education 4. Natural sciences, mathematics and informatics, Professional field 4.4. Earth Sciences, Scientific specialty "Remote Sensing of the Earth and Planets" for the needs of the section "Remote Sensing Systems" of SRTI-BAS.

Presented materials

The candidate has submitted within the legal deadline the needed documents that meet the requirements for the academic position of "Associate Professor" and comply with the Act for the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), holding academic positions in the Bulgarian Academy of Sciences and the Regulations for application of the ADASRB in SRTI-BAS.

The presented materials are well systematized and arranged, which facilitates their analysis.

Brief professional and biographical data about the candidate

Hristo Nikolov was born in 1966 in Sofia. In 1990 he graduated from the Higher Institute of Mining and Geology (now the University of Mining and Geology "St. Ivan Rilski") with a degree in "Production Automation Engineer in the Mining Industry".

In 1991 he started working in the Central laboratory of solar-terrestrial influences at the Bulgarian Academy of Sciences (CSTIL-BAS) as a software engineer. Since 1998 he has been a research associate II degree, since 2003 – I degree, and since 2011 he has been a chief assistant at SRTI-BAS. In 2018 he successfully acquired the educational and scientific degree PhD in the scientific specialty 01.04.12 (Remote Sensing of the Earth and the planets), in which specialty the current competition was announced.

The total professional experience of the candidate is about 30 years, and in the specialty – 22 years.

Actuality of the topic

Due to its scope of vision, scale, expressiveness and reliability, remote aerospace technologies have become a powerful and highly effective tool for studying the objects and phenomena of our planet. For the processing of the huge amounts of data and their reliable interpretation it is necessary to develop and apply specialized software using elements of

artificial intelligence for models training, determination and evaluation of the parameters of the studied objects. In this aspect, the topic of the present competition is of high relevance.

Scientific publications

In this competition, chief assistant Hristo Nikolov participated with 40 scientific papers (10 in group B and 24 in group G). Three of them are independent, the first author in 14 collective publications and the second author in 8 publications. Thirty two of the publications are in English and the rest are in Bulgarian.

The publications presented in this competition have not been used within the procedure for acquiring the educational and scientific degree "PhD". The PhD thesis of the candidate is represented by the presented enlarged version of its executive summary.

The documents presented by the candidate are in accordance with the minimum national requirements under Art. 26, Para. 2 and Al. 3, respectively to the requirements under Art. 26, para. 2 of ADASRB and according to the Regulations of BAS for the conditions and procedure for acquiring scientific degrees and holding academic positions in field 4 – Natural Sciences, Mathematics and Informatics, are presented in the following table:

Group of indicators	Required scores for academic position "Associate Professor" according to the ADASRB	Required scores for academic position "Associate Professor" according to the Regulations of the ADASRB into SRTI and BAS	General scores of Candidate by Groups
A	50	50	50
B	100	100	254
Г	200	220	230
Д	50	60	64

It can be seen that the number of points of the candidate exceeds those required by the Law and its Regulations.

Citation

The total number of noticed citations (without self-citations) of the candidate's works is 20, of which 11 are abroad. One of his publications was cited 5 times, one – 3 times, two – 3 times, and six – once.

Participation in research projects

The candidate has participated in a total of 29 research projects, 5 of which he is a leader.

Contributions

The candidate's contributions are in three main scientific areas:

I. Development and implementation of innovative mathematical methods for thematic processing of multichannel spectral data from various equipment complexes for remote

sensing (publications B4.1, B4.2, B4.3, B4.7, D7.1, D7.2, D8.1, G8.2, G8.3, G8.4, G8.5, G8.7, G8.19, G8.20).

II. Design and development of field instruments for conducting laboratory and in-situ synchronous and quasi-synchronous remote sensing experiments for obtaining data from Earth observations (publications B4.4, B4.6, D7.3, D7.4, D7.5, Г7.6, Г8.8, Г8.10, Г8.12, Г8.13, Г8.24).

III. Use of multichannel spectral data from remote sensing in assessing the impact of risk processes on the environment of natural and technogenic origin (publications B4.5, B4.8, B4.9, D8.6, D8.9, D8.11, D8.14, D8.15, D8.16, D8.17, D8.18, D8.21, D8.23).

I accept and appreciate the candidate's contributions.

Joint publications

I have one joint publication with the candidate, which is not presented within this competition.

Personal impressions

I have known the candidate since he joined STIL-BAS in 1991. Since then I have had the opportunity to follow and have impressions of his development as a researcher and explorer. Dr. Nikolov has repeatedly shown his ability to formulate scientific problems and lead teams for their successful solution. He has good communication skills for teamwork, which is why he enjoys the respect of the collegial community not only in SRTI-BAS.

Recommendations

In my opinion, in the formulated second group of contributions, the phrase "field laboratory" is not appropriate, but only "field", because "laboratory" is not understood to mean field research (in-situ).

Conclusion

Based on the materials presented at the competition, the scientific and scientific-applied achievements and contributions, as well as my personal impressions of the candidate chief assistant Dr. Hristo Stoianov Nikolov I give a positive assessment of his overall research and I am convinced that they meet the requirements of the Act for the Development of the Academic Community in the Republic of Bulgaria and the Rules of the Bulgarian Academy of Sciences for the academic position of "Associate Professor" by field of higher education 4. Natural sciences, mathematics and informatics, Professional field 4.4. Earth Sciences, Scientific specialty "Remote Sensing", which is why I propose to the esteemed Scientific Jury to award it.

Sofia
28.09.2020

Compiled the opinion: 
(prof. Garo Mardirossian)

