

ИНСТИТУТ ЗА КОСМИЧЕСКИ ИЗСЛЕДВАНИЯ И ТЕХНОЛОГИИ - БАН	
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## REVIEW

by

**Prof. Dr. Roumen Nedkov**

at Space Research and Technology Institute – BAS, member of the Scientific Jury, in accordance with Order No. 14/24.01.2020 г. of the Director of SRTI-BAS, for a competition for the occupation of academic position „**PROFESSOR**”, announced in SG No. 98 от 13.12.2019 г. from the Space Research and Technology Institute - BAS 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 Department "Remote Sensing and GIS".

### 1. General criteria for participation in the competition.

**Assoc. Prof. Georgi Nikolaev Jeleв, PhD** from the Department "Remote Sensing and GIS" at SRTI-BAS has submitted documents for participation in the announced competition. He is the only candidate. The documents presented by him meet the requirements for occupation of the academic position "Professor". The submitted documents are in accordance with the LAW FOR THE DEVELOPMENT OF ACADEMIC STAFF IN THE REPUBLIC OF BULGARIA (LDASRB), the Rules for the Implementation of the LDASRB, the Rules on the Terms and Conditions for Acquisition and Occupation of Academic Positions at the Bulgarian Academy of Sciences and the Rules for the application of the LDASRB of the Space Research and Technology Institute - BAS.

The applicant meets the Minimum National Requirements under Art. 2b, para. 2 and 3, respectively, of the requirements of art. 2b, para. 5 of LDASRB and in accordance with the Rules of the BAS for the conditions and procedure for acquiring scientific degrees and for occupying academic positions in the field of higher education 4 - Natural sciences, mathematics and informatics, professional field 4.4. Earth Sciences.

On the basis of the presented by the candidate scientific works and publications, it can be regarded that he meets the requirements for occupation of academic positions "Professor". The results by the individual indicators are presented in TABLE 1.

TABLE 1

Group of indicators (according to the Bulgarian classification scheme )	Required scores for academic position "Professor" according to the LDASRB	Required scores for academic position "Professor" according to the Rules of the LDASRB into SRTI and BAS	Scores of the candidate for academic position " Professor " <b>Assoc. Prof. Georgi Nikolaev Jelev, PhD</b>
<b>A</b>	50	50	50
<b>B</b>	100	100	106
<b>Г</b>	200	220	240
<b>Д</b>	100	120	123
<b>Е</b>	150	150	234

The results of Assoc. Prof. Jelev, PhD by the individual indicators exceed the threshold scores required according to the Rules of the LDASRB into SRTI and BAS.

## 2. Characteristics and assessment of the scientific works and publications

The scientific works and publications of the candidate are grouped in two categories:

1) Application of remote sensing methods for crop monitoring.

The following scientific works belong to this category:

- 14 pcs. scientific publications: 7 pcs. indexed in Scopus and in the Web of Science and 7 pcs. published in journals with scientific review\* (B4\_1, B4\_4, B4\_5, B4\_6, B4\_7, B4\_8, B4\_9, Г8\_1, Г8\_2; Г8\_5, Г8\_6; Г8\_9; Г8\_10, Г8\_14).
- There are also presented and accepted 9 pcs. scientific reports on various scientific forums (2; 3; 4,5, 9,11,12,13,16).
- The candidate has participated in 5 research projects, mainly international, in this scientific field† (E16\_2, E16\_4, E16\_5, E17\_1, E19\_1).
- Assoc. Prof. Jelev, PhD is a coauthor in 1 pcs. patent (E23\_1) and he has developed 5 pcs. geoinformation products ( 4 2, 3, 4, 5).

2) Development and transfer of technologies for remote sensing of the Earth.

The following scientific works belong to this category:

- 15 pcs. scientific publications: 3 pcs. indexed in Scopus and in the Web of Science, and 12 pcs. published in journals with scientific review\* (B4\_2; B4\_3; B4\_10; Г6\_1; Г8\_4; Г8\_8; Г8\_11; Г8\_15; Г7\_1; Г7\_2; Г8\_3; Г8\_7; Г8\_12; Г8\_13; Г8\_16).
- There are also presented and accepted 7 pcs. scientific reports on various scientific forums (8; 14; 15; 1; 6; 7; 10).
- The candidate has participated in 4 research projects, mainly international, in this scientific field (E15\_1; E17\_2; E16\_3; E15\_5).
- Assoc. Prof. Jeleв, PhD has developed 3 pcs. geoinformation products( 1,6,7).

All of the presented by Assoc. Prof. Jeleв, PhD scientific works and publications for participation in the competition are in the scientific field "Remote sensing of the Earth". This assumes that, in general, the presented by the candidate scientific work is with accordance to the theme of the competition.

I accept and give a positive assessment of all presented by Assoc. Prof. Jeleв, PhD scientific works for participation in the competition.

### **3. Assessment of scientific and applied scientific contributions**

The scientific and applied scientific contributions of the candidate, according the presented by him author's reference, are the following:

- 1) Remote sensing and ground based agricultural monitoring:
  - 1.1) Methodology for assessment of crop vegetation state is developed and tested.
  - 1.2) The efficiency of mapping of agricultural crops based on satellite images with different spatial resolution is evaluated.
  - 1.3) Estimation of the accuracy of determination of agricultural crops parameters through a set of vegetation indices.
- 2) Development and transfer of technologies for remote sensing of the Earth, Geographic Information Systems (GIS) and ground based methods for the study of the natural environment.
  - 2.1) A methodology for application of satellite and ground based data for the study of land cover, geomorphological objects and tectonic processes is developed.
  - 2.2) Transfer of technologies for remote sensing of the Earth for the purposes of landscape-ecological monitoring on the territory of Bulgaria.

\* According to the Bulgarian classification scheme

Based on the scientific papers and the results contained in them, presented for participation in the competition by Assoc. Prof. Jelev, PhD, I give the following assessments:

- The contributions for development of methodology for assessment of crop vegetation state and methodology for application of satellite and ground based data for the study of land cover, geomorphological objects and tectonic processes definitely have a scientific character.
- The applied scientific contributions are related to the scientific works focused on the evaluation of the efficiency of mapping of agricultural crops based on satellite images and transfer of technologies for remote sensing of the Earth.

I accept and evaluate positively the scientific and applied scientific contributions of the candidate.

#### **4. Assessment of the scientific and pedagogical activity of the candidate.**

Assoc. Prof. Jelev, PhD is a scientific supervisor of one full-time PhD student. The candidate leads a course on "Geoinformation systems in the ecology" (30 teaching hours) at New Bulgarian University in 2019. Assoc. Prof. Jelev, PhD is a member of several scientific juries for acquisition and occupation of various academic positions.

I give a positive assessment on the scientific and pedagogical activity of the candidate.

#### **Conclusion**

On the basis of the results presented in the scientific works and publications of Assoc. Prof. Jelev, PhD at the competition, I consider that he fully meets the requirements for occupation of academic positions "PROFESSOR".

**Taking the foregoing into account, I vote "YES", Assoc. Prof. Georgi Nikolaev Jelev, PhD to be selected for the post of "PROFESSOR" - 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".**

Member of the Scientific Jury:

*12/*  
Prof. Dr. Roumen Nedkov



*Jelev*

