

OPINION

by Ass. Prof. Dr. Eng. Krasimira Kirilova

(University of Shumen "B. Konstantin Preslavski")

on a competition for academic position "Professor"

in the field of higher education 5. "Technical Sciences", professional direction **5.7.**

Architecture, construction and geodesy, scientific specialty "**Cartography (incl. thematic geographical mapping)**") in the Department of Geodesy at the Faculty of Technical Sciences of the Shumen University "Bishop Konstantin Preslavski".

Published in SG issue 64/03.08.2021

with candidate: Ass.prof. Dr. Eng. Sabin Ivanov Ivanov

1. Competition information

The competition was announced for the needs of the Department of Geodesy in the structure of the "Faculty of Technical Sciences" of the ShU "B. Konstantin Preslavski", according to the Decision of the Catedry Council (Protocol № CD-01-10/02.07.2021) and Decision of the Faculty Council (Protocol № FD-02-14/09.07.2021).

I participate in the composition of the scientific jury in the competition, according to Order No. RD-16-143/29.09.2021 of the Rector of the ShU "B. Konstantin Preslavski".

2. Information about the candidates in the competition

The only candidate to participate in the competition for the academic position "Professor" is **Ass. Prof. Dr. Eng. Sabin Ivanov Ivanov**. He is associate professor and deputy dean of the Faculty of Technical Sciences at the ShU "B. Konstantin Preslavski". He has teaching and research experience and numerous publications in the field of geodesy, thematic cartography and cartography. He is a member of the Professional Association for Electronic Engineering and Electrical Engineering (IEEE), as well as the professional organization of scientists in the country - the Union of Scientists in Bulgaria. Entered in the register of persons entitled to carry out cadastre activities.

3. Fulfilment of the requirements for holding the academic position

The candidate participates in the competition for professor with one monograph, two textbooks, four teaching tools – exercise manuals, thirteen articles (one referenced by the Web of Science, three licensed in EBSCO, nine in unreferferened journals with scientific review), eight reports from scientific conferences and thirty-seven citations in scientific publications, monographs and collective volumes.

It is established from the analysis of the submitted documents, as well as from the additional references made, that the scientific papers submitted **are accepted for evaluation without exception**, since their content does not establish thematic duplication and connection with the publications on doctoral work and the first habilitation of the applicant.

№	Name of the project	Occupied position	Year
1	Project "Study the application of remote methods and technologies in the mapping of spatial objects."	Manager	27.01.2020
2	Project "Improvement of the technology for the creation of geoinformation models for the needs of geodesy and geography in the GIS laboratory."	Expert	14.03.2014
3	Project "Interdisciplinary Study of Megaliths in Bulgaria."	Expert	2014
4	Project "Study of geodynamic processes in the region of the Black Sea shelf with modern geodetic and remote methods."	Expert	13.03.2015
5	Project "Study of modern geoinformation models based on photogrametric and remote methods."	Expert	05.02.2016
6	Project "Interdisciplinary Study of Megaliths in Bulgaria"	Expert	05.02.2016
7	Project "Remote methods for collecting and processing operational geospatial information in crisis situations based on unmanned aerial and aqua technical means"	Expert	01.02.2017
8	Project "Monitoring of meliorative and hydrotechnical sites using GNSS technologies and unmanned aerial and aqua technical means"	Expert	09.02.2018
9	Project "Study of the effectiveness of GNSS technologies in RTC mode, together with mobile GIS, for the needs of the cadastre"	Expert	01.02.2019
10	Project "Student Practices - Phase 2"	Expert	2020 funded by OP NOIR

The analysis of the documents submitted and the data in Table 1 shows the following:

1. 10 projects are presented;
2. Projects are developed from 2014 to 2020;
3. In one of the 10 projects mentioned, the applicant shall be the manager and, in the other 9 projects, shall perform the role of expert.

Assessment of the teaching activity

Ass. Prof. Sabin Ivanov lectures in front of students from professional field 5.7. "Architecture, Construction and Geodesy" at The Bachelor and Master's Degree at The ShU "B. K. Preslavski" in the disciplines "Topographic cartography 1 part", "Topographic cartography 2 part", "Geodesy 1 part", "Geodesy 2 part", "Cartography 1 part", "Cartography 2 part", "Transformation of map images", "Cartography and GPS navigation", "Mobile GIS", "Thematic cartography".

The applicant's teaching activity is distinguished by the use of **interactive learning tools**, in particular audio-video technologies, text and analysis.

From 2021, Ass.prof. Dr. Sabin Ivanov is **the scientific leader of two PhD students** appointed to teaching positions at the ShU "B. Konstantin Preslavski".

The applicant shall provide **scientific guidance** to students, as well as assist in their preparation for participation in the family scientific student sessions and other scientific forums. He has conducted annual and **practical trainings** in the field of geodesy and cartography, in accordance with the specialization of the students trained.

Characteristics of the scientific papers submitted

In the competition, Ass.prof. Sabin Ivanov participated with 28 publications with a total volume of 1069 pp., which do not repeat the presented for the acquisition of the educational and scientific degree "Doctor" and the academic position "Associate Professor". These publications are distributed as follows: 1 monograph in co-authorship with a volume of 378 pp.; 13 articles with a total volume of 110 p., 5 of which are independent in English with a volume of 25 p., 1 in co-authorship of the database "Web of Science", 6 articles in a co-author with a volume of 74 pp. published in unreferenced journals with scientific review, 1 of which is in English; 8 reports from scientific conferences with a total volume of 35 p., thirty-seven citations; 2 separate textbooks with a volume of 224 pp.; 4 independent teaching tools with a volume of 322 pp.;

In thematic terms, these publications deal with different problems, but their differentiation is within the limits of the necessary and sufficient diversity to not conflict with the announced competition.

Scientific and scientific-applied contributions of the applicant

The fact that the whole theory and methodology of science – in the past and today – is ultimately aimed at revealing the mechanism of the development and functioning of science as a **system for creating new knowledge** remains a fact – persistent and necessary. The classification of contributions is to categorize them into three groups, including: **scientific and scientific-applied problems, original scientific contributions and theoretical summaries and solutions to scientific and scientific-applied problems**. Such a classification would take us a long time, and it would not be correct enough, given that in the vast majority of cases, the contributions discussed are interconnected. Taking these introductory notes into account, I shall proceed with the evaluation of the applicant's scientific contributions.

I will start with the **toolkit developed** by him for the application of digital remote methods, which increases the possibility of detecting various interesting morphological structures in remote areas. The second of the contributions discussed refers to the presented **concept** of solutions to the effective activities of cultural heritage sites, and a **universal sign system** covering cultural monuments has been **developed**; A methodology for mapping the sites and the introduction of historical resources into GIS data sets to facilitate their management has also been proposed. Of interest is the candidate's approach to **cultural heritage**. He offers field activities for mapping, description and attractive visualization of the rich cultural and historical heritage left by our ancestors.

The candidate's proposed methods and techniques for modeling the relief using stereophotogrammetric techniques using aerial photographs for the purposes of cartography are also highly worth it. Some **basic principles in digitisation** have been **identified** and derived. Finally, **new technologies and methods** for sourcing, data management in a digital environment and their mapping visualization are proposed, following the trends of modern cartography.

Thus, by making a brief summary of the applicant's scientific and scientific-applied contributions, we should look at concepts, categories, principles, classifications, models, methods and techniques that we could identify as new knowledge, filling in the fund of scientific knowledge in the field of thematic cartography and cartography.

The use of this knowledge by other authors is reflected in 37 citations in scientific publications, monographs and collective volumes.

Recommendations for future creative activity

Ass.prof. Sabin Ivanov is a representative of the **new wave of scientists** facing the not-so-easy task of mastering modern mapping technologies and applying them in his scientific field. And he, like any scientist, faces **the dilemma** of what to preserve from the past of his scientific work, how to bridge the gap between new facts and outdated theories, how to further reproduce knowledge. From this point of view, I would recommend that he continue to work in the field of cartography, exploring the impact that access theory and new technologies have on her. It is he, as the author of the monograph "**Modern Mapping Technologies**" who has the preparation of a scientist who could cope with this task.

Conclusion

No violations of the procedure were found from the examination of the submitted materials for the competition. The requirements of the laws and regulations in force are complied with.

On the basis of the familiarisation with the candidate's documents and the evaluation of the publications submitted by him, the following conclusions may be drawn:

1. In the competition, he shall be **the sole candidate**;
2. Holds the educational and scientific degree "**Doctor**";
3. Holds the academic position "**Associate Professor**" in the higher school that announced the competition;
4. He is provided with the necessary **audience and non-audience employment**;
5. The applicant has published **textbooks and teaching aids** in the main disciplines he teaches;
6. Read **profiling disciplines** that are directly related to the competition;
7. Carry out scientific guidance of **two** PhD students;
8. **Scientific and practical guidance** of students has been carried out;
9. **A sufficient volume** unrelated to the first habilitation, scientific production involving 28 labours, including 1 monograph, 13 scientific articles, 8 scientific reports, 2 textbooks and 4 teaching aids, was submitted and accepted for evaluation;
10. **34 citations** of the applicant by other authors have been documented;
11. As a whole, peer-reviewed publications **contain substantial scientific and scientific-applied results** and theoretical summaries and solutions to problems in the field of geodesy, thematic cartography and cartography, which correspond to modern achievements and represent an original contribution to science.

My overall assessment of the criteria and indicators for the study and research shows that Ass.prof. Dr. Eng. Sabin Ivanov Ivanov meets all the requirements of the laws and regulations for taking up **the academic position "Professor"** in professional field 5.7. Architecture, construction and geodesy, scientific specialty "Cartography (incl. thematic geographical mapping)" in the Department of Geodesy at the Faculty of Technical Sciences of the Shumen University "Bishop Konstantin Preslavski".

Shumen, 20 October 2021

Drafted the opinion: 
(Ass.prof. Dr. K. Kirilova)