



## REVIEW

by Prof. Dr. eng. ANDREY IVANOV ANDREEV  
internal member of the scientific jury - reviewer

**Subject:** Contest for the appointment of an associate professor in a professional field 5.7. „Architecture, construction and geodesy“, scientific specialty „Cartography (incl. thematic geographic mapping)“ for the needs of the Department of „Geodesy“ at the Faculty of Technical Sciences of Shoumen University „Episkop Konstantin Preslavski“.

### A. Reason for review

A.1. Order No. РД-16-050 of 30.04.2019 of the Rector of Shoumen University "Episkop Konstantin Preslavski" (SU) for appointment of a scientific jury to hold a competition for an academic position in the higher education area 5. „Technical sciences“, professional field 5.7. „Architecture, Civil Engineering and Geodesy“ (cartography, including thematic geographic mapping) in the Department „Geodesy“ at the Faculty of Technical Sciences.

A.2. The competition is regularly announced in State Gazette. 21 / 12.03.2019, with a period of two months, for the needs of the Department of „Geodesy“ at the Faculty of Technical Sciences of Shoumen University „Episkop Konstantin Preslavski“.

A.3. The reviewer was elected by decision of the first meeting of the Scientific Jury, held on 20.05.2019 (Protocol No. 1).

A.4. The review complies with the requirements of the rules, procedures, criteria and requirements for occupying academic positions in the Republic of Bulgaria and the University of Shoumen.

### B. Documents submitted by the candidate for participation in the competition

B.1. Application by the sole candidate - Ch. Ass. Dr. Sabin Ivanov Ivanov, lecturer at the Department of „Geodesy“ at the Faculty of Technical Sciences of Shoumen University „Episkop Konstantin Preslavski“.

B.2. Creative biography by Ch. Ass. Dr. Sabin Ivanov Ivanov, prepared according to a European model.

B.3. A copy of the higher education diploma, Reg. № 1842 8/2002, Master's degree in Geodesy, Photogrammetry and Cartography, received at the Vasil Levski military school - Faculty of Shoumen.

B.4. A copy of the diploma № D-127 / 27.07.2017 of the Shoumen University for the educational and scientific degree „Doctor“.

B.5. A certificate from the SHU certifying that Ch. Dr. Sabin Ivanov Ivanov has been working in the SHU since 01.03.2014 until now.

### 1. Brief biographical data for the applicant

Chief Assist. Dr. Sabin Ivanov Ivanov was born on 15.12.1978 in the town of Popovo, Targovishte. In 2002 he graduated the Secondary Technical University of Veliko Tarnovo, Faculty of Artillery, Air Quality and CIS - Shoumen, and graduated as an engineer in „Geodesy, Photogrammetry and Cartography“. In 2017 he defended his dissertation at the University of Shoumen and received his

Ph.D. From 2014 till now, after taking part in the competitions, he holds consecutively the academic positions „Assistant“ and „Chief Assist“. Assistant Professor at the Technical sciences, Department of „Geodesy“. Member of: IEEE - Shumen, USB - Shumen Branch. He speaks a foreign language - English at a good level.

## **1. General description of the presented materials - articles, reports, instructions, scientific projects, textbooks and teaching aids, etc.**

### **1.1. General characteristic of the applicant's scientific, applied and pedagogical activities**

The candidate's jobs are structured into three parts.

In part one is presented a scientific work - monograph with which the candidate participates in the competition for „associate professor“ - subject of the review.

The monograph is entitled „Contemporary Aspects of Mathematical Cartography“ and contains 13 chapters and has a volume of 195 pages. With this work a successful attempt was made to present the complete set of past, present and future trends for the development of mathematical cartography (MK) at home and abroad. It provides an opportunity to get acquainted with the theoretical and practical statements related to the tasks and objectives of Mathematical Cartography. The monograph is developed at a very good scientific and methodological level. It is a completed scientific study providing theories, analyzes, factual materials, results of empirical studies related to cartographic practice and training in the „Konstantin Preslavski“ in Geodesy and Geography and Regional Policy.

In the second part are presented the papers of the candidate - articles, reports after receiving the educational and scientific "Doctor" in total 10 - 2 articles and 10 reports from participation in scientific forums. These academic papers of the applicant are reviewed (papers 5.1 - 5.10).

In the third part of participation in scientific projects - 8 pcs.

### **1.1. Scientific and applied research activity of the applicant**

Chief Assist. Dr. Sabin Ivanov Ivanov participated in the competition with achievements in the scientific and applied research activity as follows:

#### **• total number of publications (articles, reports and other printed publications) - 11**

- articles - 2 issues, in a journal that is referenced and published abroad (Journal scientific and applied research, licensed in EBSCO - USA, independent - 2 issues;
- reports - 8 in total in Bulgaria - 5 reports at MATTEH conferences with international participation; 3 items in the Yearbook of the FTN. All posts are self-contained;
- monograph 1 issue (printed in IM „Episkop Konstantin Preslavsky“).

#### **• total number of scientific projects - 8, internal university projects;**

#### **• reflection of the applicant's scientific publications in the literature (quoted):**

- Presented - a total of 17 citations from other authors: the candidate's papers - 2; of reports - 15 pieces. In total, 5 papers of the candidate by three authors have been cited in 17 publications.

### **2.2. Educational-pedagogical activities (work with students)**

Chief Assist. Ass. Dr. Sabin Ivanov Ivanov, during the academic year 2018/2019, he has held classes in the following disciplines:

- For specialization Geodesy (full-time training - masters) the subject „Topographic cartography 1h“ exercises in the winter semester with the 1st course;
- For specialization Geodesy (full-time education - masters) the discipline „Geodesy II h“ - exercises in the winter semester with II course;
- For the specialization Geodesy (regular training - masters) the discipline „Cartography I“ - exercises in the winter semester with the 3rd course;
- For specialization Geodesy (full-time course - masters) the course „Topographic cartography II hours“ exercises in the summer semester with the 1st course;

- For specialization Geodesy (full-time course - masters) the course „Cartography II“ - exercises in summer semester III;

*According to the reviewer, the scientific and pedagogical activities presented by the candidate dominate the achievements in the scientific and scientific applied activity. This is also the current requirements of NEAA and MES to stimulate the research activities of university lecturers, as set out in the Strategy for the Development of Higher Education in the Republic of Bulgaria until 2014-2020.*

### **1. Contributions**

Candidates' submissions are summarized thematically with reference to the relevant publications by numbers from the attached list. From this list, I review only achievements that have not been reviewed in prior scientific and scientific rankings.

In general, contributions can be summarized as follows.

#### **1.1. Analysis and assessment of the state of the cultural and historical heritage sites in the Shumen region with cartographic methods.**

- Dissertation assignment for the awarding of the Doctor in the year 2017 - I do not review.

#### **1.2. Theory of Mathematical Cartography**

- A monograph is presented which examines contemporary aspects of mathematical cartography. Along with the theoretical determinations of the mathematical basis, the coordinate systems in cartography and the types of projections are presented with the possibility to select and define the basic parameters of the map projections.

- A successful transfer to modern GIS and the opportunities they provide for automated cartographic projection choices.

- Attention is paid to the transformation of map images and transformation methods;

- Practical guidelines for application of computing technologies in cartographic practice have been developed.

#### **1.3. Analyzes, evaluations and research results in the field of cartography**

- The scientific and applied applications of the candidate in the field of topographic cartography are presented in this direction. They present the candidate as a scientist who knows the theory and skillfully applies it to hair styling [5.3, 5.4, 5.5, 5.7, 5.8, 5.9, 5.10].

#### **1.4. Analyzes, assessments and results of research in the field of geodesy**

- The scientific and applied applications of the candidate in the field of geodesy are identified in this direction. The advantages and disadvantages of BGS2000 and BGS2005 are analyzed and practical recommendations are given. [5.1]

- An author's view of the formula for calculating the starting point is presented, in the case of resolving the resonance by means of the sines and cosines of the measured horizontal angles. This approach optimizes computational processes. [5.2]

### **I acknowledge the applicant's contributions, which have a scientific and applied character and concern:**

- addition to existing theory and methodology and enrichment of existing knowledge [Monograph], [5.1, 5.2];

- application of scientific excellence in practice [5.3 to 5.10].

### **2. Assessment of the applicant's personal contribution**

In the field of scientific and applied research, the personal contribution of the applicant is clearly expressed, and the following can be summarized.

- After receiving the NSA, „Doctor“ has published 11 scientific papers;

- There were noticed, after receiving the NSA "doctor" - a total of 17 citations from other authors.
- He has participated in 8 research projects.

In the field of teaching and teaching-pedagogical activity for the candidate's personal contribution can be noted the following:

- There are prepared exercises in 5 lecture courses, which are held in SHU.
- Participated in international mobility under Erasmus + in 2019 - Technical University of Riga, Latvia.
- Member of the faculty council of the Faculty of Technical Sciences of the Shoumen University.

Regarding publications and contributions, I believe that they are a personal work of the candidate and are due to his abilities, his hard work and the broad literary awareness of the research areas.

### **3. Critical remarks and recommendations**

I have no critical remarks, but I recommend that the candidate continue his research on the application of modern cartographic methods in the cultural and historical heritage.

I will make the following statement:

According to SRARPB, PUZRASRB and PUZRASRB of the SUT, the candidate meets the terms and conditions for taking the academic position "associate professor".

The report on the fulfillment of the minimum national requirements under Article 26 (2) of the ZARSRB with the relevant evidence is (Table 2) [8]:

Indicator A Dissertation - 50 points; Indicator In Monograph - 100 points;

Indicator D 8 Scientific publications in unrefined journals with scientific review or in edited collective volumes - 10 posts by 20 points = 200 points;

Indicator D 13 Quotes in monographs and collective volumes with scientific review - 17 citations of 3 points = 51 points.

A total of 401 points.

### **4. Personal impressions**

I know ch. Ass Don Ivanov Ivanov as a diligent, ambitious, highly educated and respected student lecturer. His professional training is combined with lasting scientific interests and in-depth knowledge in the field in which he works. It maintains ethical and collegial relationships with professors and scientists at home and abroad. I have been a reviewer of the dissertation thesis of Ch. Assen Dr. Sabin Ivanov Ivanov for obtaining the educational and scientific degree "doctor", to whom I have definitely given a positive assessment.

### **5. Conclusion**

The analysis carried out in the review of the teaching, research and other activities of Ch. Assin Dr. Sabin Ivanov Ivanov shows that the requirements of ZRARSR, PPRZRASRB, as well as PIRSRADB of the SHU have been fulfilled to the candidate for taking the academic position "associate professor".

**In view of the above, I propose to the Honorable Scientific Jury of the Competition to vote positively, Ch. Ass. Dr. Sabin Ivanov Ivanov to take the academic position „associate professor“ in professional field 5.7 Architecture, construction and geodesy, scientific specialty „Cartography (incl. thematic geographic mapping)“ for the needs of the Department of „Geodesy“ at the Faculty of Technical Sciences of Shoumen University „Episkop Konstantin Preslavski“.**

June 5, 2019  
town of Shumen

Reviewer:.....  
(prof. dkn Eng. Andrey Andreev)