



## REVIEW

by Prof. DSc Eng. ANDREY IVANOV ANDREEV  
an internal member of a scientific jury-reviewer

**About:** Competition for the occupation of academic position "Associate Professor" in professional direction 5.7 "Architecture, civil engineering and geodesy" (General, higher and applied geodesy) for the needs of the Department of Geodesy of the Faculty of Technical Sciences of Shumen University "Bishop Konstantin Preslavski".

### A. Justification for the review

A.1. Order No RD-16-183 from the 03.12.2019 of the rector of the SHU "Bishop Konstantin Preslavski" for the appointment of a composition of a scientific jury to conduct the announced in SG. 79/08.10.2019 competition for the occupation of academic position "Associate Professor" in the field of higher education 5. "Technical Sciences", professional direction 5.7 "Architecture, civil engineering and geodesy" (General, higher and applied geodesy) in the Department of Geodesy" of the Faculty of Technical Sciences of Shumen University "Bishop Konstantin Preslavski".

A.2. The competition is regularly announced in SG. 79/08.10.2019, with a period of two months, for the needs of the Department of Geodesy at the Faculty of Technical Sciences of Shumen University "Bishop Konstantin Preslavski".

A.3. Minutes of the first meeting of the Scientific jury under the procedure for conducting the announced in SG. 79/08.10.2019 competition for the occupation of academic position "Associate Professor" in the field of higher education 5. "Technical Sciences", professional direction 5.7 "Architecture, civil engineering and geodesy" (General, higher and applied geodesy) in the Department of Geodesy" of the Faculty of Technical Sciences.

A.4. The review complies with the requirements of the Rules, procedures, criteria and requirements for the occupation of academic positions in the Republic of Bulgaria and the University of Shumen.

### B. Submitted documents from the candidate for participation in the competition

B.1. Application from the only candidate - Chief assistant Evgeni Grishev Stoykov, PhD, lecturer in the Department of Geodesy at the Faculty of Technical Sciences of Shumen University "Bishop Konstantin Preslavski".

B.2. Creative biography from Chief assistant Evgeni Grishev Stoykov, PhD, prepared on a European sample.

B.3. Copy of the Diploma of University degree, Reg. No 026116/2011, "Master's degree" in the specialty of geodesy, received in the Shumen University "Bishop Konstantin Preslavski".

B.4. Copy of Diploma No. D-081/08.12.2015 of the SHU for the educational and scientific degree "doctor".

B.5. Certificate of the SHU in assurance that the Chief assistant Evgeni Grishev Stoykov, PhD has been working in the SHU since 01.09.2012.

## **1. Short biographical data for the applicant**

Chief assistant Evgeni Grishev Stoykov, PhD was born in 20.01.1982 in the town of Shumen, Bulgaria. In 2007, he graduated from the SHU "Bishop Konstantin Preslavski"- Bachelor and graduated as a Geodesy engineer, and in 2011 he graduated the Master. In 2015, he defended his dissertation at the SHU and received the educational and scientific degree "doctor". From 2007 to 01.09.2012 was a chief expert "Regulations" in municipal administration Shumen. From 01.09.2012 to the moment after participation in the competitions held the academic positions "assistant" and "chief assistant" of a basic employment contract in the SHU, Department of Geodesy. He is a member of: IEEE-Shumen, Union of scientists in Bulgaria – branch Shumen and Chamber of engineers in investment design. He speaks a foreign language – English at a good level.

## **2. A general description of the materials presented – articles, reports, instructions, scientific projects, textbooks and learning tools, etc.**

### **2.1. General characteristics of the applicant's scientific, scientific and pedagogical activities**

The works of the candidate are systematized in **three parts**.

In **part one** is presented scientific work – a monograph, with which the candidate participates in the competition for "Associate Professor"-the subject of the review.

The monograph is entitled "Technical means and systems for hydrographic measurements". The monograph contains 4 chapters and has a volume of 174 pages. Figures, tables and formulas are formed according to BSS (Bulgarian State Standard).

This monographic work aims to systematize and analyse the works in the planning of hydrographic studies. The issues in the collection and processing of hydrographic data, their analysis and quality, the process of drafting and presentation are examined and analysed.

The different types of coordinate systems and their conversions in Bulgaria are presented. The coordinate systems in which the satellite navigation systems operate are analysed in detail.

The physical characteristics of sea water, different types of acoustic systems, their working principle, sources of error and quality control techniques for hydrographic data collection are considered.

Historically, various geodetic methods for measuring and processing data were developed in hydrography over time in the determination of depths. These methods are used today, but it is necessary to explore the possibilities of introducing new more effective methods for collecting hydrographic data.

With the rapid development and validation of satellite navigation methods and technologies in geodesy, the creation of a modern, unified and precise geodesic coordinate system is possible on a global and regional scale. This allows for the application of GNSS technologies in research of oceans, seas, rivers, inland waters, etc.

The literature used is in the volume of 108 sources.

The monograph was developed at a very good scientific and methodical level. It is a complete scientific study providing theories, analyses, factual materials, results of empirical studies related to hydrographic practice and training in the SHU "Bishop Konstantin Preslavski".

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In the **part three** is presented 13 pcs. Scientific projects.

### **2.2. Scientific and scientific applied activity of the candidate**

Chief assistant Evgeni Grishev Stoykov, PhD participates in the competition with achievements in scientific and scientific activities as follows:

- **Total number of publications** (articles, reports and other printed editions) – **14 pcs.**
  - **articles** – 1 piece in the journal "Geodesy, Cartography and land" and 6 in the Yearbook of FTSc. Of these, 6 are self-contained and one is co-authored.
  - **reports** – a total of 7 pieces in Bulgaria – 6 reports of MATTEX conferences with international participation; 1 The number of the National Scientific Conference "Interdisciplinary Studies of the Megaliths". Three of the publications are self-contained and the others co-authored;
  - **Monograph** – 1 piece (printed in the SHU "Bishop Konstantin Preslavski).
  - **total number of scientific projects** – 13 numbers, internal university projects;
  - **scientific publications of the candidate in the literature (cited):**

A total of 17 citations by other authors are presented. In total there are 6 works of the candidate from three authors in 17 publications.

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

Chief assistant Evgeni Stoykov, PhD during the school 2018/2019, he conducted classes in the SHU in the following disciplines:

- For Geodesy (regular training-masters) discipline "*Digital image processing*" - lectures;
- For Geodesy (regular training-masters) discipline "*Geodesy II part*"-exercises;
- For Geodesy (regular training-masters) discipline "*CAD Systems*"- lectures;
- For Geodesy (regular training-masters) discipline "*Maritime geodesy*"-lectures;
- For Geodesy (regular training-masters) discipline "*Geodesic networks I and II part*"-exercises;
- For Geodesy (regular training-masters) discipline "*GNSS Application in geodesy*"-exercises;

*According to the reviewer, the materials for the scientific and pedagogical activities presented by the applicant **dominate the achievements in scientific and scientific activity**. These are the modern requirements of NAOA and MON to **stimulate the research activities of the university professors**, which are enshrined in the Strategy for development of higher education in the Republic of Bulgaria until 2014-2020.*

### **3. Contributions**

The claims for contributions of the applicant are summarised thematically with reference to the relevant publications by number in the attached list. From that list I review only achievements that have not been peer-reviewed in previous science and academic competitions.

In general, contributions can be summarised as follows.

#### **3.1. Scientific-applied**

- A thorough analysis and evaluation of satellite navigation methods, GNSS methods for determining coordinates in RTK mode using a user and permanent base station are made.
- A methodology for statistical analysis and estimation of differences from measurements obtained by classical method and GNSS in RTK mode has been developed.
- A methodology for creating a working geodesic basis, geodesic shooting and tracing of objects with GNSS in RTK mode at different duration of measurements was developed.

#### **3.2. Applied**

- Real expert researches on sites from northeastern Bulgaria have been carried out for validation of the developed methods for GNSS application in RTK mode for creation a working geodesic basis, geodesic shooting and tracing of objects.

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

- addition to existing theory and methodology and enrichment of existing knowledge;
- application of scientific advances in practice.

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

In the field of **scientific and scientific-applied activity**, the individual contribution of the applicant is clearly expressed, in summary, the following may be noted.

- After receiving the educational and scientific degree "Doctor" has published 14 pieces of scientific papers;
- They were noted after receiving an educational and scientific degree "doctor"-a total of 17 citations by other authors.
- He has participated in 13 research projects.

In the **field of training and teaching activities for the applicant's personal contribution**, the following may be noted:

- He has prepared lectures on three lecture courses, which he conducts in the SHU.
- There are prepared exercises in 3 lecture courses, which is conducted in the SHU.
- He has participated in international mobility under the Erasmus + programme in 2019 – Technical University of Riga, Latvia.
- He is a member of the Faculty Council of the SHU Technical Sciences.

As regards publications and contributions, I believe they are a personal work of the applicant and are due to his abilities, his diligence and the broad literary awareness of the research areas studied.

#### **5. Critical remarks and recommendations**

I have no critical remarks, but I recommend that the candidate continue his research in the application of modern GNSS and hydro-acoustic equipment.

I will make the following finding:

According to the LDASRB (Law for the development of academic staff in the Republic of Bulgaria), and RILDASRB (Rules for the implementation of the Law for the development of academic staff in the Republic of Bulgaria) and the RILDASRB of SHU the applicant is eligible for the academic position of "Associate Professor".

The reference to the fulfilment of the minimum national requirements referred to in article 26 (2) of the LDASRB with the relevant evidence is (table 2) [8]:

Indicator A dissertation labour – 50 points;

Indicator C Monograph – 100 points;

Indicator D 8 Scientific publications in non-referenced journals with scientific review or in edited collective volumes – 200.6 points;

Indicator E 13 Citations in monographs and scientific peer-reviewed volumes – 17 quoted by 3 points = 51 points. Total 401.6 points.

#### **6. Personal impressions**

I know a Chief assistant Evgeni Grishev Stoykov, PhD as a hardworking, ambitious, highly erated and respected student lecturer. His professional training is combined with lasting scientific interests and profound knowledge in the field in which he works. Maintains ethical and collegial relationships with professors and scholars in Bulgaria and abroad. I have been a reviewer of the dissertation work of Chief assistant Evgeni Stoykov, PhD for receiving the educational and scientific degree "doctor" of which I strongly gave a positive assessment.

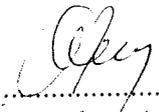
#### **7. Conclusion**

The analysis carried out in the review of the teaching, research and other activities of the Chief assistant Evgeni Grishev Stoykov, PhD shows that the requirements of the LDASRB, RILDASRB, as

well as the RILDASRB of the SHU to the candidate for the occupation of the academic position "Associate Professor" are met.

Considering the above, I propose that the honorable scientific jury vote positively, Chief assistant Evgeni Grishev Stoykov, PhD to take the academic position "Associate Professor" in the professional direction 5.7 "Architecture, civil engineering and geodesy " (General, higher and applied geodesy) for the needs of the Department of Geodesy at the Faculty of Technical Sciences of Shumen University "Bishop Konstantin Preslavski".

07 January 2020  
Shumen

Reviewer:.....  
(Prof. DSc Eng. Andrey Andreev)