

KONSTANTIN  
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SHUMEN



ШУМЕНСКИ УНИВЕРСИТЕТ  
"ЕПИСКОП КОНСТАНТИН ПРЕСЛАВСКИ"

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## О P I N I O N

by Assoc. Prof. Dr. Eng. Andrey Iliev Bogdanov,  
from ShU "Bishop Konstantin Preslavski"  
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about a competition for the academic position of " Professor" in the field of higher education: 5. Technical sciences, Professional field 5.7., Architecture, Construction and Geodesy, (Photogrametry and Remote Methods) in the Department of Geodesy Faculty of Technical Sciences, University of Shumen "Bishop Konstantin Preslavski", announced in the State Gazette, issue 41/03.06.2022.

**Candidate:** Associate Professor Eng. Kiril Filipov Yanchev PhD

**Reason:** Order № RD-16-174/31.08.2022. of the Rector of the University of Shumen "Bishop Konstantin Preslavski".

### 1. Biographical data

The candidate Associate Professor Eng. Kiril Filipov Yanchev PhD., who is the only candidate for the announced competition for the "academic position defends ONS "Doctor" in 2017 in a scientific specialty in a professional field 5. Technical sciences, Professional field 5.7. Architecture, Construction and Geodesy. From 2019 to 31.08.2022 "Chief Assistant" in the Department of Geodesy at ShU „Bishop Konstantin Preslavski“. Since 01.12.2020 he has occupied the academic position "Associate Professor" in the same department. The candidate has many years of practical experience in the field of geodesy, and his professional activity began in 1993.

## 2. Quantitative characteristics of the candidate's scientific production

The candidate Associate Professor Eng. Kiril Filipov Yanchev PhD. participates in the competition for " Professor" with a monograph on: „Laser scanning – achievable precision in the field of photogrammetry, remote sensing and geodesy“. 14 articles and reports are presented, 8 of them are co-authored. He is the only author of 6 of them . The subject area of the publications fully covers professional field. 5.7 Architecture, Construction and Geodesy.

The candidate Associate Professor Eng. Kiril Filipov Yanchev PhD. presents a Report on the implementation of the minimum national requirements, as follows:

group A indicators,	<b>50 points</b>
group B indicators,	<b>100 points</b>
group Γ indicators,	<b>250 points</b>
group Δ indicators,	<b>54 points</b>
group E indicators,	<b>54 points</b>

Summary: the candidate has achieved **612 points**. The minimum national requirements for the academic position is **600 points**.

## 3. Main scientific contributions

I agree that the presented scientific contributions of Associate Professor Eng. Kiril Filipov Yanchev are his personal achievements. According to the author's reference, he himself has defined the following contributions in the field of photogrammetry and distance methods:

- The basic principles of terrestrial laser scanning are mathematically and experimentally substantiated, on the basis of which the ways to improve the accuracy of measurements with terrestrial laser scanners when photographing objects and terrain are theoretically proven and practically investigated;

- A theory of photogrammetric processing of laser scanning data was developed, based on the use of the batch method for leveling the scanner passes, which allows to increase the accuracy of determining external orientation elements up to 35% compared to other methods;

- A theoretical and methodological justification of the processes of terrestrial laser surveying has been developed, which is the basis of a universal technology for its production, determination of research parameters and tolerances for monitoring

the accuracy of performing the processes of terrestrial laser surveying, as well as an assessment of the accuracy of the final product;

- A universal method for checking ground laser scanners has been developed, which allows metrological certification of all types of phase and pulse ground laser systems;

- A theoretical and methodological justification of the ground laser survey process is developed, which is based on a universal work-in-progress technology, determined by the survey parameters and the tolerances for monitoring for distortion accuracy of the process for ground basing, laser monitoring and accuracy assessment of the final product.

#### **4. To what extent the works presented and their contributions are personal work of the candidate?**

From the submitted for review monographic work and 6 other publications (II.6, II.9, II.10, II.12, II.13, and II.14) are an independent author's work of the candidate. 8 publications (II.1, II.2, II.3, II.4, II.5, II.7 II.8 and II.11) are co-authored. This is the reason to accept that the main part of the scientific production of Associate Professor Eng. Kiril Filipov Yanchev is his personal work..

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

I recommend that the candidate focus his publishing activity in refereed and indexed scientific publications with impact factor, so that he promotes the results of his research and to do more research in a professional direction 5.7 Architecture, Construction and Geodesy.

#### **CONCLUSION**


The candidate for participation in the competition has presented a scientific production, which is in the required professional field of the announced competition. The presented research is at a high theoretical level and correspond to the regulatory documents.

These scientific contributions confirm that the candidate is a promising researcher with an affinity for practical realizations in the scientific specialty.

**After being acquainted with the presented scientific papers, their significance, their scientific and applied contributions, I find it appropriate to**

propose the candidate Associate Professor PhD. Eng. Kiril Filipov Yanchev to take the academic position of "Professor" in the field of higher education: 5. Technical sciences, Professional field 5.7. Architecture, construction and geodesy, (Photogrametry and remote methods) in the Department of Geodesy at the Faculty of Technical Sciences of "Konstantin Preslavski" University of Shumen.

14.10.2022

Signature:..........

/ Andrey Bogdanov/ Assoc. Prof. PhD/