

## OPINION

by Prof. Dr. Eng. Lubomir Vankov Dimitrov, TU-Sofia  
of the materials submitted for participation in the competition  
for holding the academic position of "Associate Professor"  
in the field of higher education 5. Technical sciences,  
professional field 5.1. Mechanical Engineering,  
specialty "Methods, transducers and devices for measurement and control of physico-mechanical  
and geometric quantities"

In the competition for associate professor, announced in the State Gazette №50/15.06.2021 and on the website of TU-Gabrovo for the needs of the Department of Mechanical and Precision Engineering at the Faculty of Mechanical and Precision Engineering, as a candidate participates Chief Assistant Professor Tsanko Vladimirov Karadzhov, PhD, from the Department of Mechanical and Precision Engineering at the Faculty of Mechanical and Precision Engineering, Technical University of Gabrovo.

### 1. Overview of the content and results in the presented works

The candidate has submitted for participation in the competition a set of documents consisting of: one monograph, 12 articles in referenced and indexed world databases of scientific information (Scopus and Web of Science), 21 publications in non-refereed journals with scientific review and 2 textbooks. All publications and textbooks ("Instruments for measuring physico-mechanical quantities. Manual for laboratory exercises" and "Computer-aided design in mechatronics") are in the field of the competition - "Methods, transducers and instruments for measuring and control of physico-mechanical and geometric quantities".

Chief Assistant Professor Tsanko Karadzhov presented a document of the fulfilment of the national minimum requirements, as well as those of the Technical University - Gabrovo, for the academic position of "Associate Professor", which I would comment as follows:

**Indicator A** (50 points out of 50 required) – a doctoral degree diploma by the Higher Attestation Commission from 08.06.2007.

**Indicator B** (100 points out of 100 required) – the candidate participates in the competition with a monograph with the title "*Methods and means for measuring physico-mechanical quantities*". It is in the field of competition and meets the generally accepted criteria for monographic work. Chief Assistant Professor Tsanko Karadzhov is the sole author.

**Indicator Г** (366 points out of 200 required) – Eng. Tsanko Karadzhov has submitted a list of 33 publications, of which on the indicator Г7 - 12 and on the indicator Г8 - 21. The presented publications are different from the publications on the candidate's dissertation. From the indicator Г7 publications I accept Г 7.1, Г7.2, Г7.8, Г7.9 and Г7.10, which are in the Scopus database (Г7.8, Г7.9 and Г7.10 are also in the WoS database). The remaining publications from the indicator Г7 (Г7.3, Г7.4, Г7.5, Г7.6, Г7.6, Г7.11 and Г7.12) I would refer to Г8 - "Scientific publications in non-refereed journals with scientific review or in edited collective volumes". Thus, the points on Г7 become 57, and on Г8 - 309. No separation protocols are presented in the publications and therefore I think that the participation of the co-authors is equal. In 5 of those publications eng. Karadzhov is the only author: Г 8.4, Г 8.5, Г 8.7, Г 8.13 and Г 8.15. Following I would conclude

that the candidate meets the requirements of TU-Gabrovo for the academic position of "Associate Professor" on indicator  $\Gamma$ .

**Indicator  $\Delta$**  (82 points out of 50 required) – the candidate has submitted the author's reference for the citations under group  $\Delta$ . From the citations under the indicator  $\Delta$ 12 I accept: the citation  $\Delta$ 12.1; from  $\Delta$ 12.2 - I accept 4 citations (which are in the Scopus database); from  $\Delta$ 12.3 - 2 citations (which are in the Scopus database). I accept all other citations as to indicator  $\Delta$ 14. Thus, the total number of points on indicator  $\Delta$  becomes 82. The candidate meets the requirements of TU-Gabrovo for the academic position of "associate professor" on indicator  $\Delta$ .

## **2. General characteristics of the candidate's activity**

### ***2.1 Educational and pedagogical activity (work with students and doctoral students)***

It can be seen from the attached reference that the candidate Chief Assistant Tsanko Karadzhov is in charge of:

- lectures in 4 disciplines: "Instruments for measuring physico-mechanical quantities" (for bachelor's and for master's degrees, and for these 2 he is also the author of the curriculum); "Intelligent positioning systems" (for bachelor's degree) and "Measurement signal processing" (for bachelor's degree - he is the author of the curriculum);

- laboratory exercises in 5 disciplines.

They are all in the field of competition.

There is no information about guided graduates or doctoral students.

To ensure the learning process and to support the assimilation of learning material by students, Chief Assistant Tsanko Karadzhov has published a manual for laboratory exercises "Instruments for measuring physico-mechanical quantities". The second textbook "Computer-aided design in mechatronics" is not directly related to the topic of the competition for "associate professor", but is very useful for students in the design of mechatronic systems and in particular devices for measuring and controlling physical-mechanical and geometric quantities.

Based on the attached documents, I believe that the educational and pedagogical activity of the candidate is at the level corresponding to the academic position of "associate professor".

### ***2.2 Scientific and applied activity***

The candidate's scientific activity is reflected in his publications, his monograph and in the textbooks. The relatively large number of his publications is in databases with referenced and indexed journals what makes a good impression - 5 issues:  $\Gamma$ 7.1,  $\Gamma$  7.2,  $\Gamma$  7.8,  $\Gamma$  7.9 and  $\Gamma$  7.10. One of them  $\Gamma$  7.10 is in a journal with a high SJR factor - 2,581 and it is in the category Q2. The candidate's noted citations in world databases fairly reflect his good scientific work.

This gives me reason to note that in terms of volume and quality the results of the scientific and applied work of Chief Assistant Professor Tsanko Karadjov satisfies the requirements for holding the academic position of "Associate Professor" and meet the requirements of the Law on its implementation and the Rules for obtaining scientific degrees and holding academic positions at the Technical University - Gabrovo.

### ***2.3 Implementation activity***

In confirmation of his implementation activity, the candidate has submitted 3 official notes and one service contract. The uniformity of the official notes and the fact that they are not on company forms. The service contract amounts to BGN 448.00 and he is the manager.

### **3. Contributions (scientific, scientific-applied, applied). Significance of contributions to science and practice.**

The candidate has declared "scientific-applied" and "applied" contributions. These "scientific-applied" contributions are in 5 thematic areas: "Methods and devices for measuring physico-mechanical quantities", "Measuring transducers", "Methods for measuring noise and vibration", "Methods for contact and non-contact temperature measurement" and "Measurement of illumination, time and angular velocity", and the "applied" contributions are in one thematic area "Laser technologies". All contributions are in the field of the competition. The contributions are formulated on the basis of what the author has done and accurately reflect what has been achieved. I accept the contributions formulated in this way.

### **4. Assessment of the personal contribution of the candidate**

The personal participation of the candidate can be judged by the number of individual publications - 5, as well as those in which he is the first author - 7. This makes about 37% of the submitted publications in the competition. The above gives me reason to claim that the contributions are the personal work of the candidate or with his leading role.

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

I did not find any fundamental and significant errors and inaccuracies in the submitted documents under the competition. I would recommend the candidate to participate more actively in research projects, as well as to intensify their implementation activities.

### **6. Personal impressions**

I do not know the candidate personally and I have no direct personal impressions, but from the presented documents I see that he is a person with a broad worldview and has very good professional qualities as a teacher and researcher.

### **7. Conclusion:**

Having in mind the above, I propose Chief Assistant Professor Tsanko Vladimirov Karadzhev to be elected "Associate Professor" in the field of higher education 5. Technical sciences, professional field 5.1. Mechanical Engineering, specialty "Methods, transducers and devices for measurement and control of physical-mechanical and geometric quantities" at the Department of Mechanical and Precision Engineering of the Faculty of Mechanical and Precision Engineering of TU-Gabrovo.

**Date: 28.10.2020**

**Jury member:**

**/signature/**

/Prof. L. Dimitrov/