

POSITION

by competition for an academic position **Associate Professor**
in Professional field 5.2. **Electrical engineering, electronics and automation**
Educational discipline **Electrical measurements**
announced in SG 55 /12 July 2019

Applicant: **Hristo Zhivomirov Karaivanov**, PhD, Assistant Professor

Member of the Scientific Jury: **Ivan Stoyanov Yatchev**, D.Sc., Professor

1. General characteristic of the applicant's scientific and applied research

The only candidate in the competition – Ass. Prof. Hristo Zhivomirov Karaivanov, PhD, is with the Department of Theory of Electrical Engineering and Measurement at TU-Varna. His research activity is entirely focused on the field of the competition.

Ass. Prof. Zhivomirov takes part in the competition with 1 monograph and 11 scientific publications. Information about citations, participation in research projects and co-authorship of manuals for students is also provided. Information is also provided on his entire scientific output, which includes 36 publications, 8 of which are related to his dissertation work for obtaining PhD degree.

Scientific publications outside the monographic work are divided into two groups:

- Publications in editions that are referenced and indexed in world-renowned scientific information databases - Scopus and Web of Science. In this group, there are 5 publications in journals with SJR, one of them with Impact Factor > 1. Of the publications in this group, three are authored only by the candidate and the other two are with two authors, with the candidate being the first author in one of them;
- Publications in scientific peer-reviewed editions, but not referenced in world-renowned scientific information databases. There are 6 publications in this group, 5 of which are in journals in Bulgaria and 1 in conference in Bulgaria. All of the publications in this group 2 are self-contained and the other 4 are with two authors each, with the candidate being the first author in all.

Information about citations of the applicant's papers is provided - 6 citations in editions referenced in Scopus / Web of Science and 1 citation in non-referenced journal with scientific review.

The submitted materials show that the minimum national requirements for the academic position of "Associate Professor" have been fulfilled.

The candidate's presence in the group of the 40 best Matlab programmers in the world should be appreciated.

2. Assessment of pedagogical ability and activity of the applicant

The candidate has been a lecturer since 2012, giving lectures and labs in the field of competition. Over the past three years he has given more lectures than the minimum requirement of 30 hours.

The candidate has also provided information about his supervision of 10 graduates - 7 in Bachelor degree and 3 in Master degree.

A testament for the pedagogical activity of the candidate is also his participation as a co-author in 6 manuals for students.

3. Main scientific and applied scientific contributions

The main scientific and applied contributions in the presented works can be formulated as follows:

- approaches and algorithms for measuring basic quantities based on the theory of spectral analysis and synthesis have been developed (B3.1);
- two software functions have been developed for the Short-Time Fourier Transform and Inverse Short-Time Fourier Transform (Г7.1);
- an approach has been developed for colored noise generation with arbitrary spectral slope (Г7.2);
- an approach for visualizing the spatial characteristics of a circular piston has been proposed (Г7.5);
- algorithms and Matlab software have been developed to measure different physical quantities and to generate measurement signals (Г8.1, Г8.2, Г8.3, Г8.5).

4. Significance of contributions to science and practice

The significance of the applicant's contributions to science and practice is evident. The approaches, algorithms and software developed have real application. The experimental verification of most of the results achieved should also be noted.

From the reference in Scopus to the date of preparation of the present position, the candidate has 10 citations, i.e. with 4 more than the ones indicated when submitting the application documents. This increase in citations shows that the publications of the candidate are up-to-date and testify to the recognition of the candidate among the scientific circles in Bulgaria and abroad.

The comparison of the applicant's indicators with the minimum requirements for occupying the academic position of "Associate Professor" at TU-Varna shows that the applicant fulfils the minimum requirements.

5. Remarks and recommendations

The materials presented do not contain any author's reference for the contributions, as well as an official reference for the lectures. In addition, there is a slight discrepancy between the information in the application form for meeting the minimum requirements and the CV of the applicant.

CONCLUSION

On the basis of the acquaintance with the presented scientific works, their significance, the scientific and applied contributions contained therein, as well as the fact that applicant fulfils the minimum requirements according to the Regulations for the terms and order of occupying academic positions in TU-Varna, I find it reasonable to propose Ass. Prof. Dr. Eng. Hristo Zhivomirov Karaivanov to take the academic position "Associate Professor" in professional field 5.2. Electrical engineering, electronics and automation in educational discipline "Electrical measurements".

Date: 30 October 2019

Scientific Jury Member:
/Prof. D.Sc. I. Yatchev/